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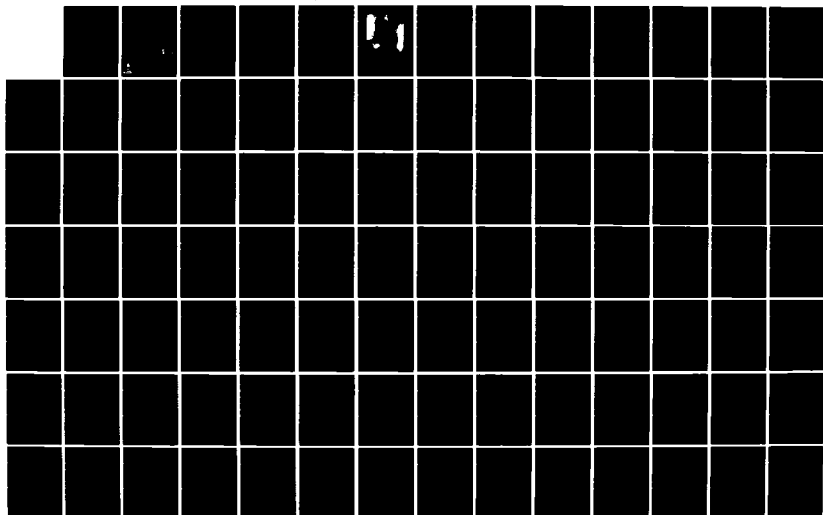
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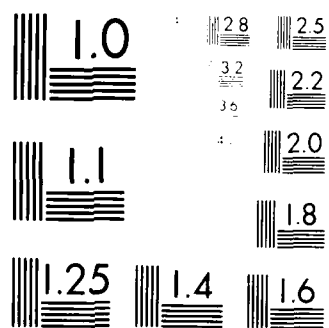
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UNIVERSITY OF CALIFORNIA  
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DATA REPORT

CSS HUDSON CRUISE 82-001  
14 FEBRUARY - 6 APRIL 1982  
Volume 2: CTD Data Plots

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) <p>A joint U.S.-Canadian midwinter oceanographic expedition was made to the waters north of the Greenland-Scotland ridges aboard the Canadian scientific vessel CSS Hudson during February-April 1982, principally in the region between Jan Mayen and Svalbard. The goals were 1) to observe conditions in the surface waters in winter, especially in the Greenland Sea and in the northern Norwegian Sea; 2) to exploit useful tracer signals such as salinity, dissolved oxygen, dissolved silica and other nutrients, tritium, freons, and isotopes of carbon; and 3) to observe regional variations in the oceanic water masses.</p>																		

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University of California  
Scripps Institution of Oceanography

DATA REPORT

CSS *Hudson* Cruise 82-001

14 February - 6 April 1982

A joint venture of  
Bedford Institute of Oceanography  
Halifax, Nova Scotia  
and  
Scripps Institution of Oceanography  
La Jolla, California

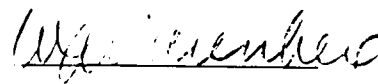
Volume 2: CTD Data Plots

Sponsored by  
United States Office of Naval Research  
Canadian Department of Fisheries and Oceans

SIO Reference No. 84-14, Vol. 2

June 1984

Approved for distribution:



W. A. Nierenberg, Director

## INTRODUCTION

We carried out a joint U.S.-Canadian mid-winter oceanographic expedition to the waters north of the Greenland-Scotland ridges aboard the Canadian scientific vessel *CSS Hudson* during February-April 1982, principally in the region between Jan Mayen and Spitsbergen. Our goals were 1) to observe conditions in the surface waters in winter, especially in the Greenland Sea and in the northern Norwegian Sea; 2) to exploit useful tracer signals such as salinity, dissolved oxygen, dissolved silica and other nutrients, tritium, freons, and isotopes of cesium, and, 3) to map regional variations in the various water masses.

The cruise track (Fig. 1) was designed not only to provide winter stations in major water mass formation regions, such as the Greenland Sea, but also to yield wide enough areal coverage to include the exchanges with the Atlantic Ocean through the Faeroe-Shetland Channel, with the Arctic Ocean through the Greenland-Spitsbergen Passage (Fram Strait), and with the Barents Sea. Coverage extended northward and westward as far as ice conditions allowed. We could provide only two widely-spaced sections in the central Norwegian Sea, a few stations in the Iceland Sea, and no coverage in Denmark Strait. However, a companion winter cruise to the Iceland Sea was carried out by the Icelandic Marine Research Institute aboard the *RS Bjarni Saemundsson*, and coverage of the Norwegian and Greenland seas was later augmented by the Deutsches Hydrographisches Institut during a May-July 1982 cruise of the *RV Meteor*.

This volume of the *Hudson* 82-001 CTD/hydrographic data report contains plots generated from the final CTD data, processed by the Scripps Physical and Chemical Oceanographic Data Facility (PACODF). An outline of CTD sampling and processing techniques is found in Volume 1. Here, the data from each CTD cast are displayed in two standard formats:

- 1) Temperature and salinity versus pressure from 0 to 600 db, or less at shallow stations, and
- 2) Potential temperature versus salinity for all data colder than 3°C, with salinities from 34.70 — 35.06.

Here we report data collected aboard the *Hudson* from the Conductivity/Temperature/Depth (CTD)/rosette casts by the Scripps Physical and Chemical Oceanographic Data Facility (PACODF), and results of alkalinity, total inorganic carbon, and tritium analyses by other investigators. Volume 1 contains a brief text outlining the cruise, sampling programs, methods and procedures, and the tabulated hydrographic and CTD data. Volume 2 contains plots of the final calibrated CTD data.

We wish to acknowledge the generous support and encouragement we received at all stages in the venture from the United States Office of Naval Research and the Canadian Department of Fisheries and Oceans. The field program was made a genuine pleasure by the expert seamanship and superb support services provided by the officers and crew of the *CSS Hudson*, F. W. Mauger, captain. For the final measure of success — the excellent quality of these data — we are indebted to the care and efficiency in conducting the CTD casts, rosette sampling, bottle data analyses, and CTD processing provided by personnel from the Scripps Physical and Chemical Oceanographic Data Facility, under the supervision of R. T. Williams. A. W. Mantyla carefully edited the final version of the discrete sample data. Programming, figure preparation, and printing of the data tables were patiently undertaken by J. Washington and M. Mitchell. The text was prepared by S. McBride, and the Marine Life Research Group Illustration Facility designed the cover and attended to final publication details.

R. A. Clarke  
J. L. Reid  
J. H. Swift

The CTD data are plotted at 1 db intervals, and data gaps are left blank. Scale factors are constant throughout to facilitate intercomparisons. At these ranges, on-paper changes of equal dimensions in temperature and salinity correspond to approximately equal changes in density. The expanded salinity scale resolves the smallest reported salinity changes (reported CTD salinity resolution is 0.001), giving rise to somewhat "choppy" salinity plots. Where no data were found within the potential temperature — salinity plot ranges, the plot has been omitted. The symbol  $\tau_{\infty}$ , or its equivalent, is not used for PSS 78 salinities. The plots, though, were prepared in SI units, for which the symbol is retained.

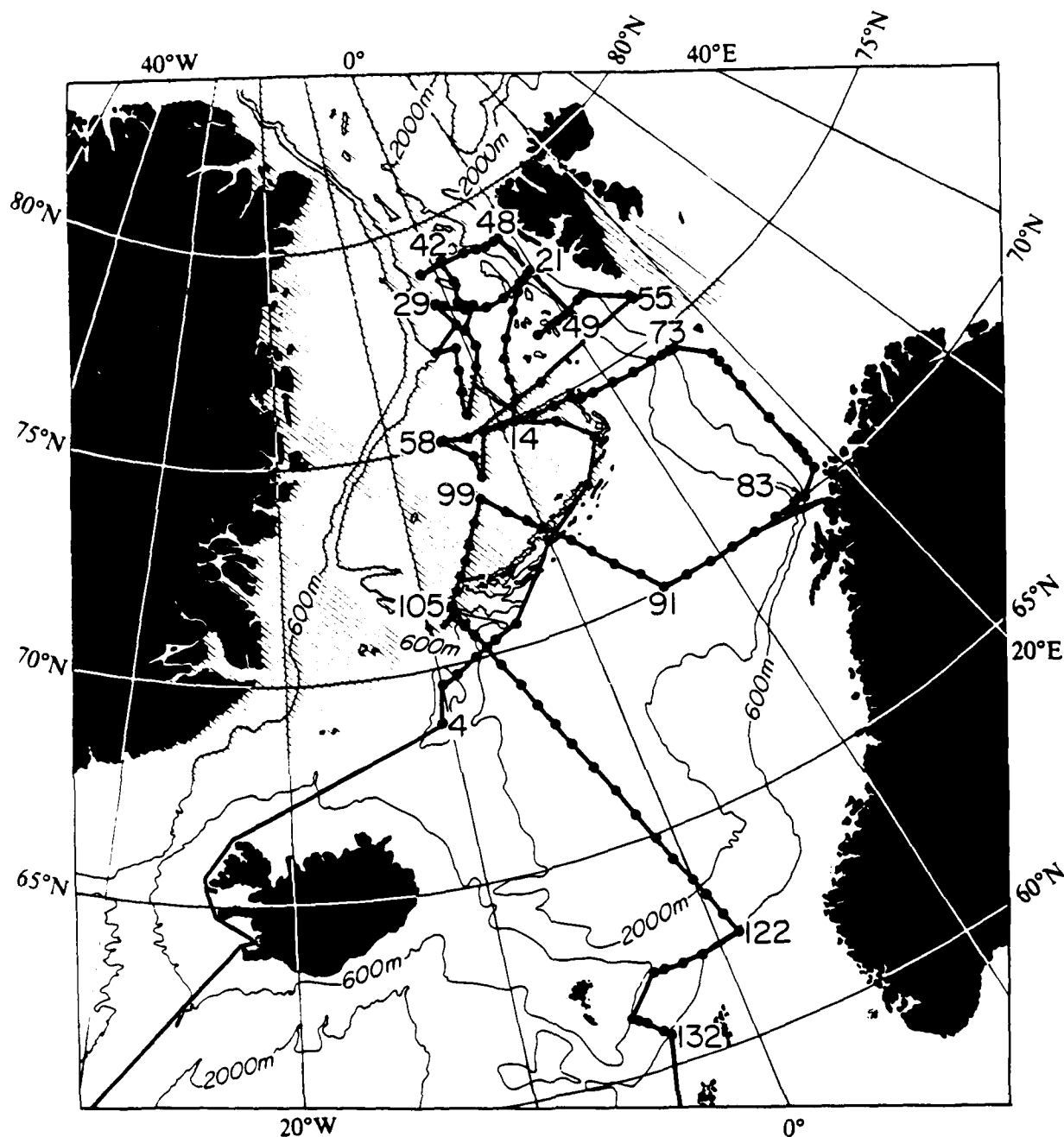
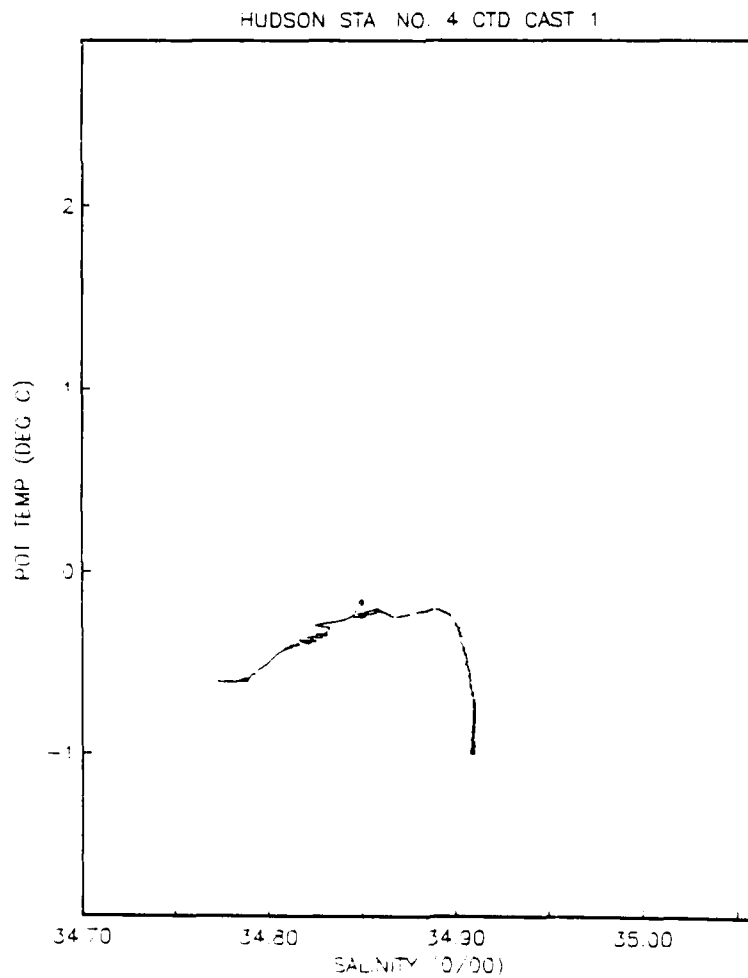
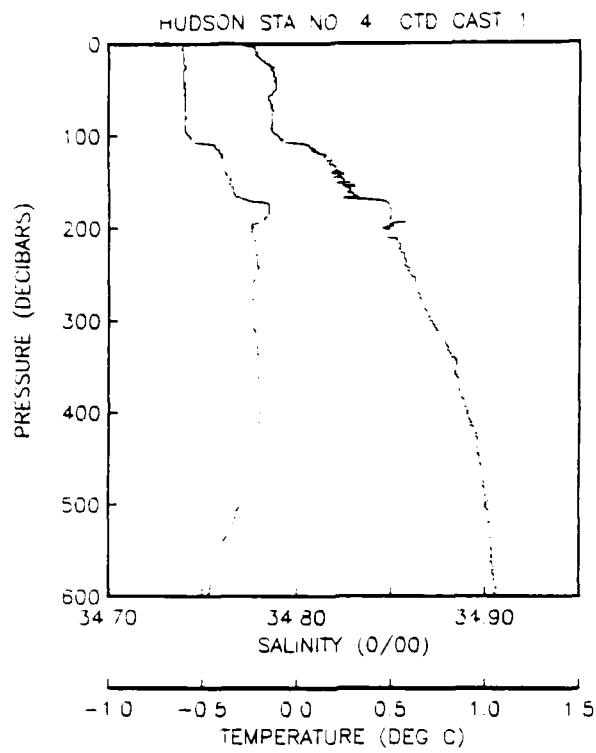
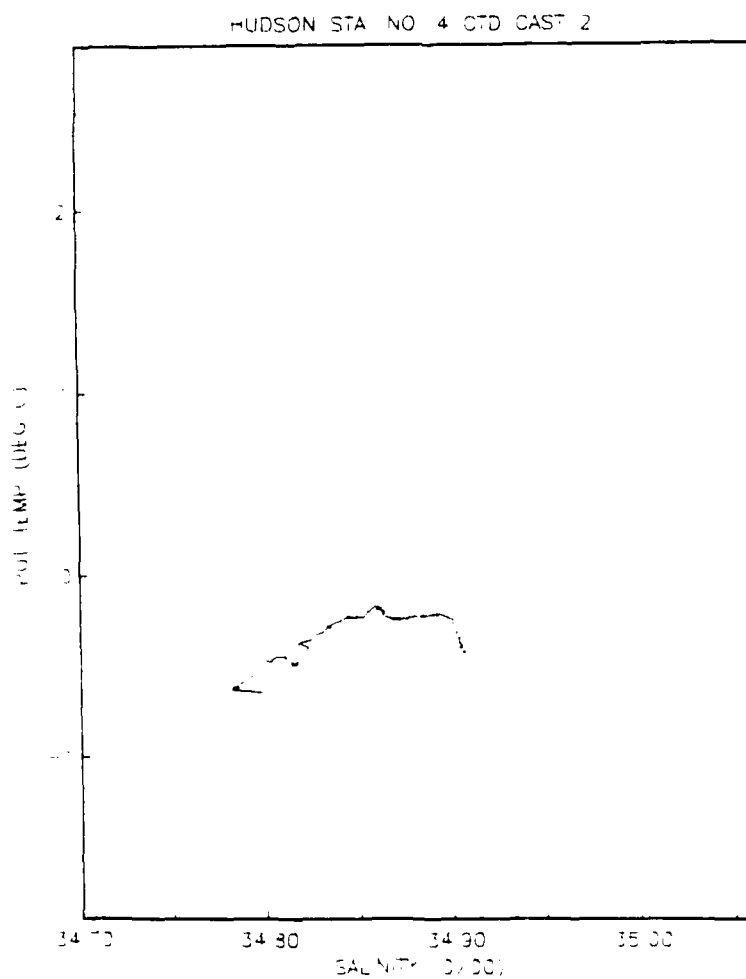
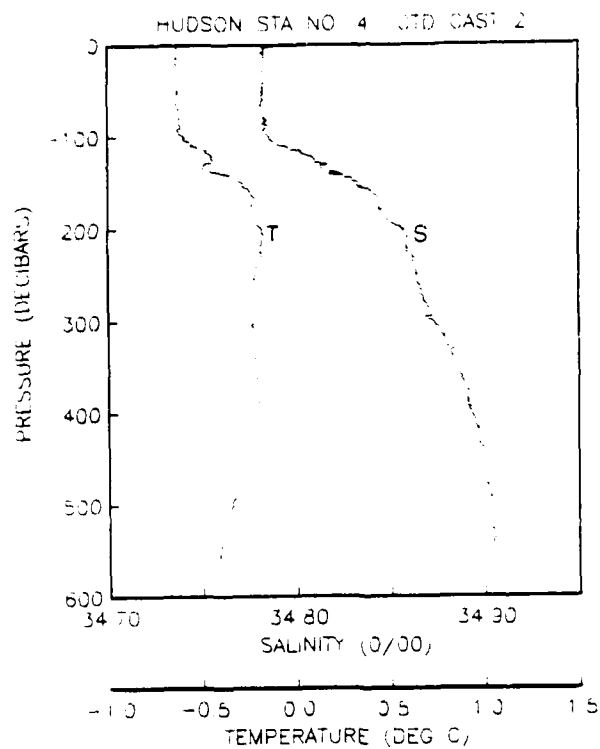
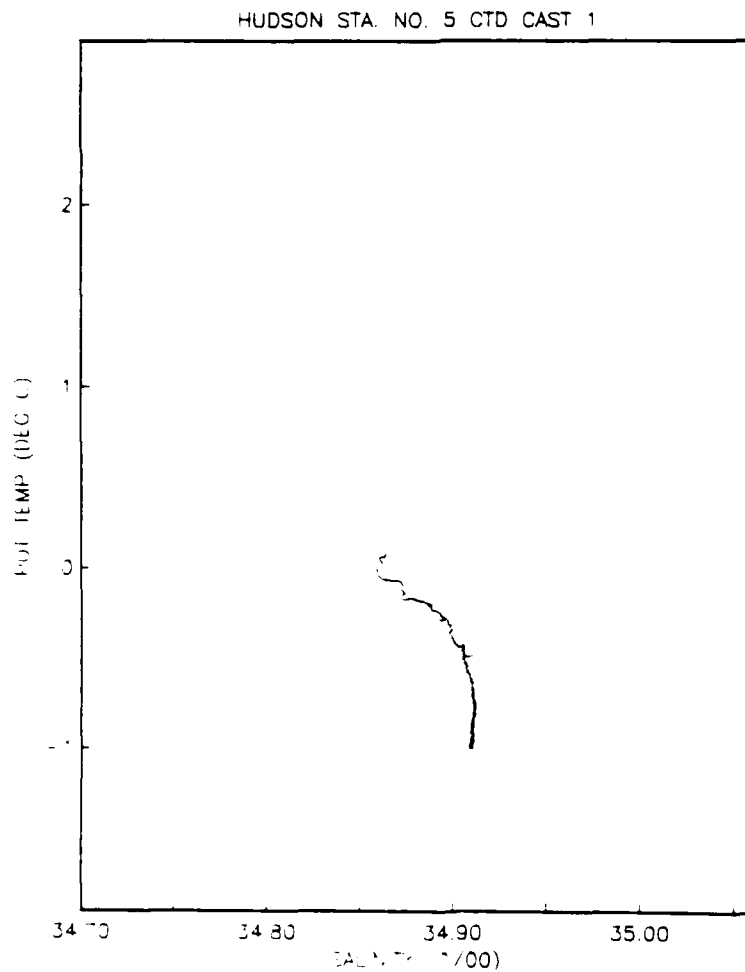
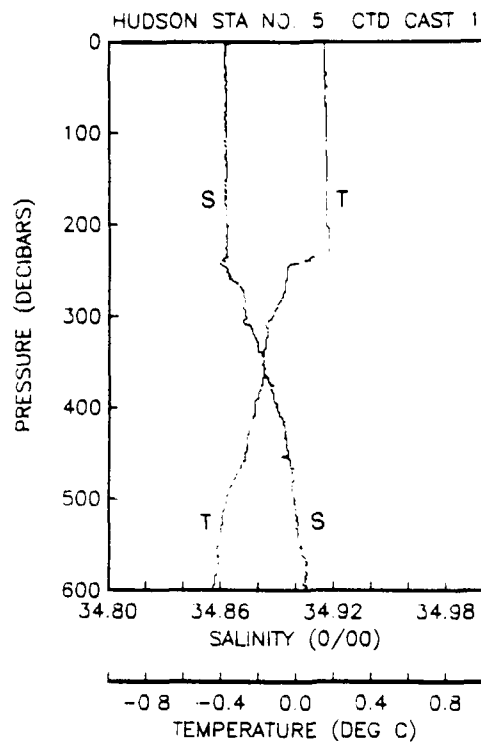


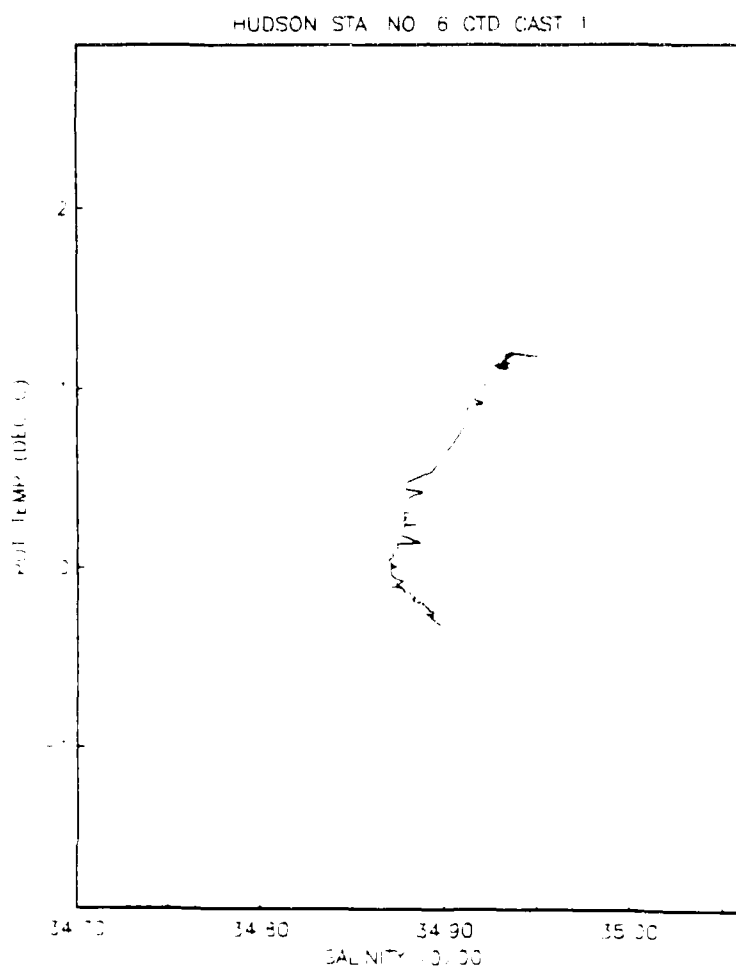
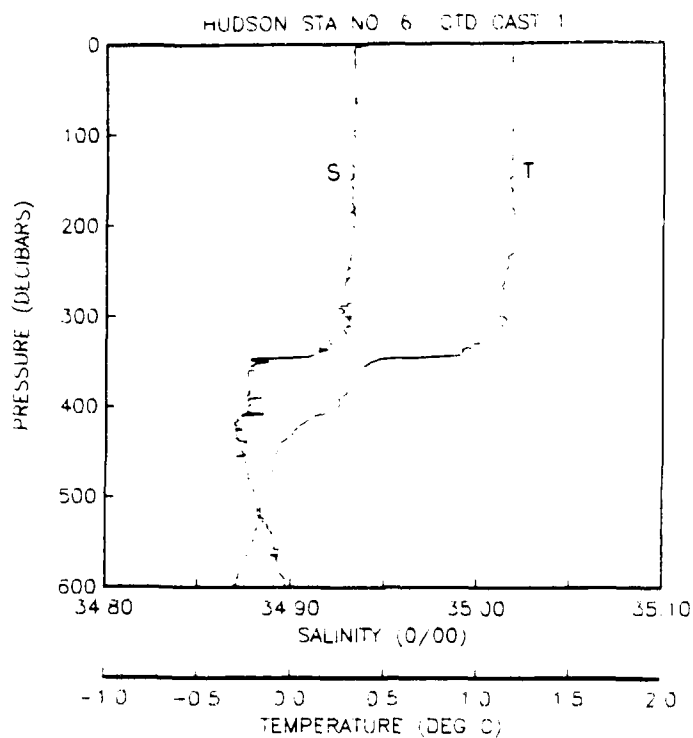
Fig. 1. Cruise track and station positions for *Hudson* Cruise 82-001. Reported CTD and hydrographic sampling began with station 4 and concluded with station 132. The Greenland Sea lies west of the mid-ocean ridge from Jan Mayen (just south of station 105) to the Greenland-Spitsbergen Passage (Fram Strait). The Norwegian Sea extends from the Faeroe-Shetland Channel to Fram Strait east of the mid-ocean ridge. The Iceland Sea is bounded by Iceland, Greenland, and Jan Mayen. The Barents Sea is the large shelf sea north of Norway. Ice-covered areas north of 68°N and west of 20°E are indicated by hatching.

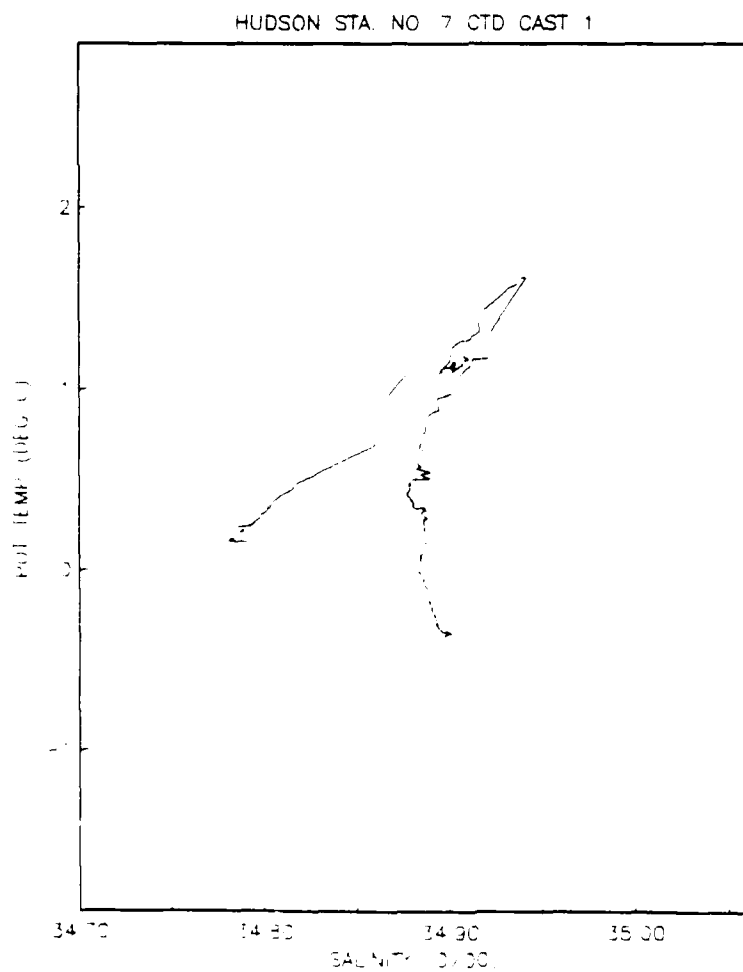
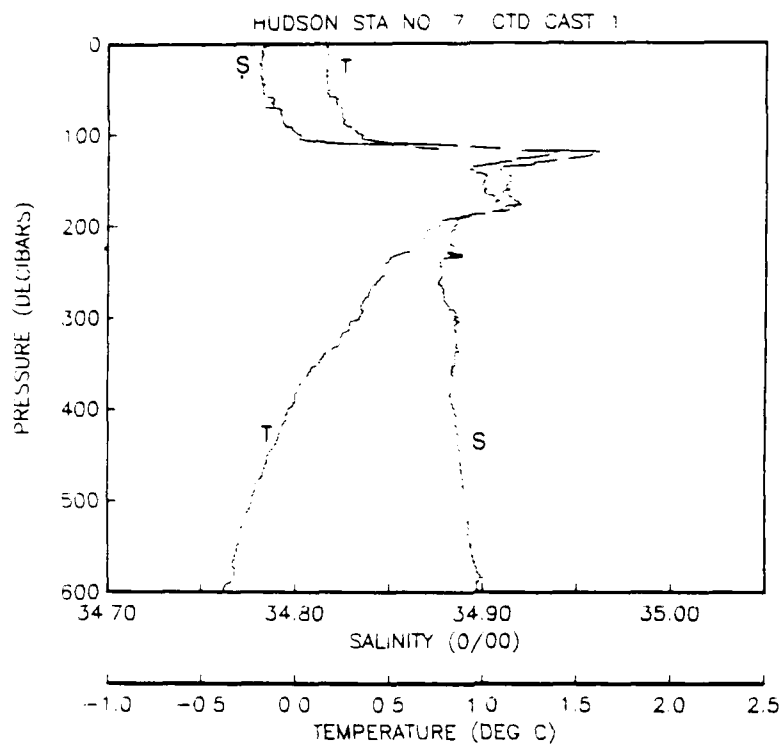


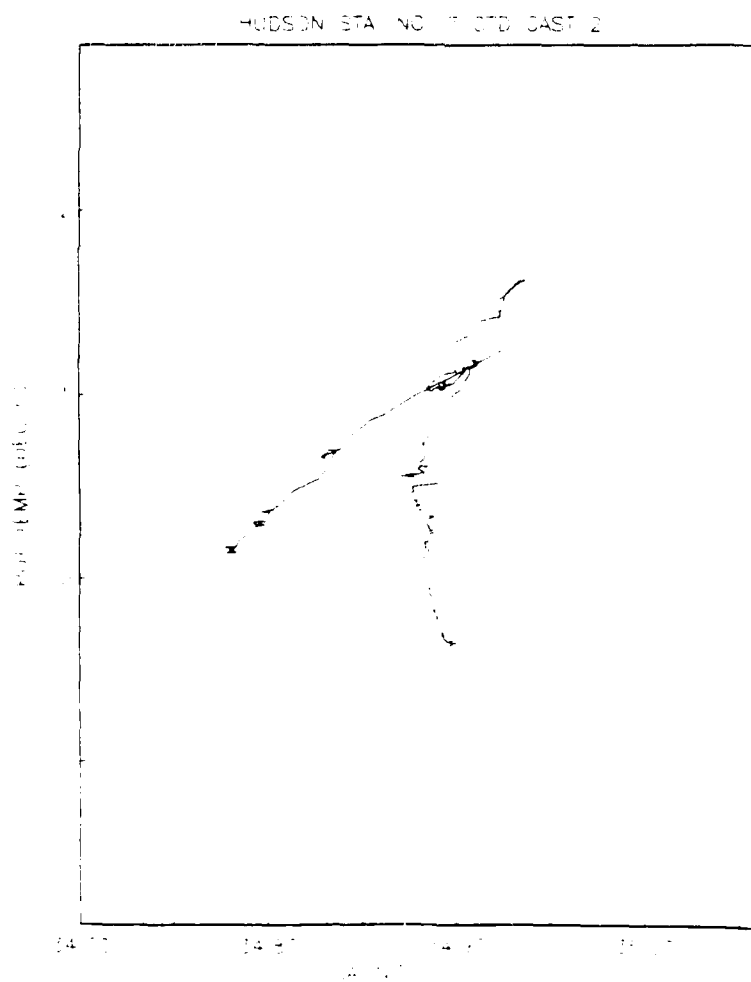
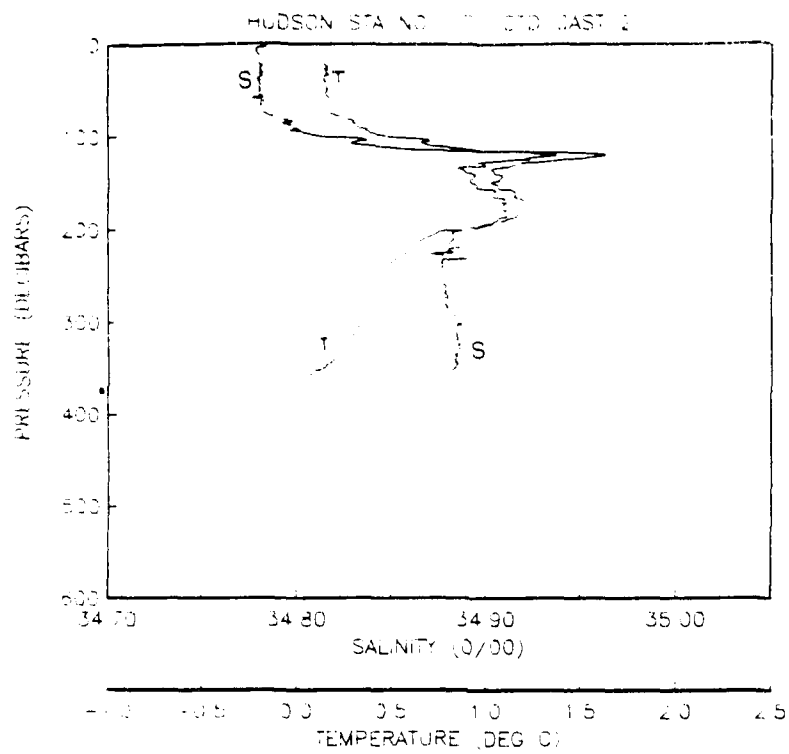


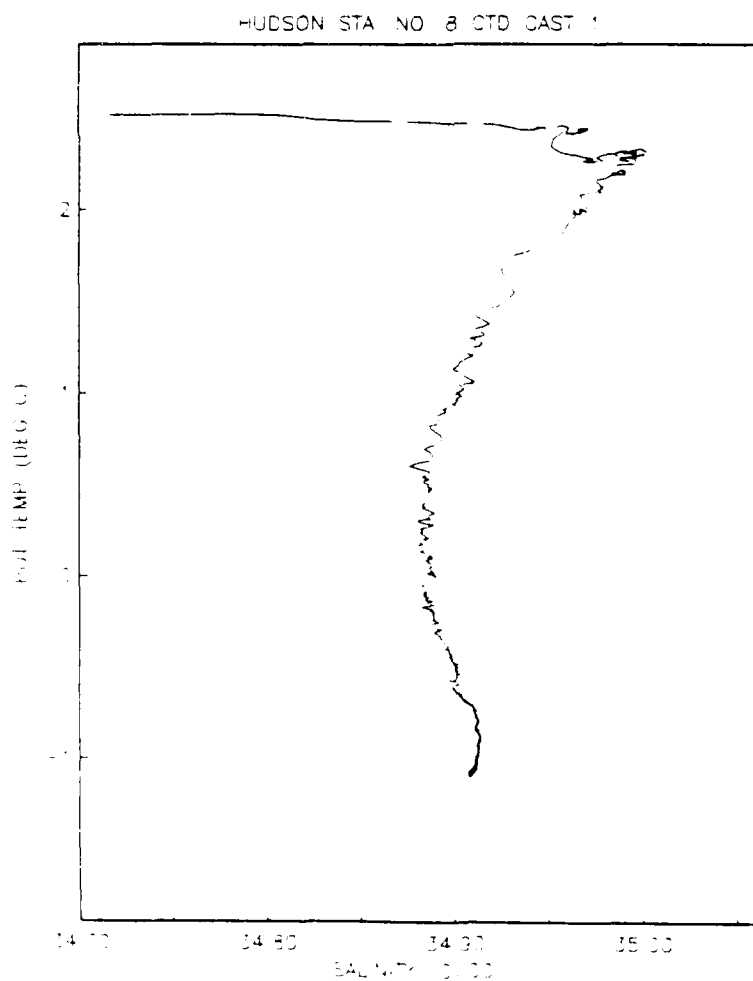
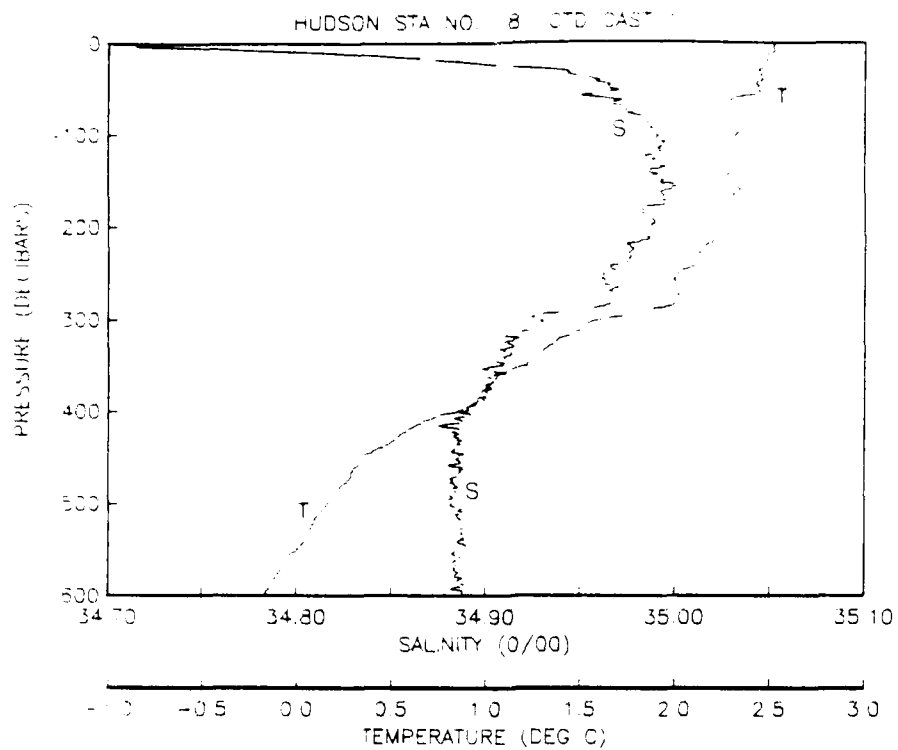


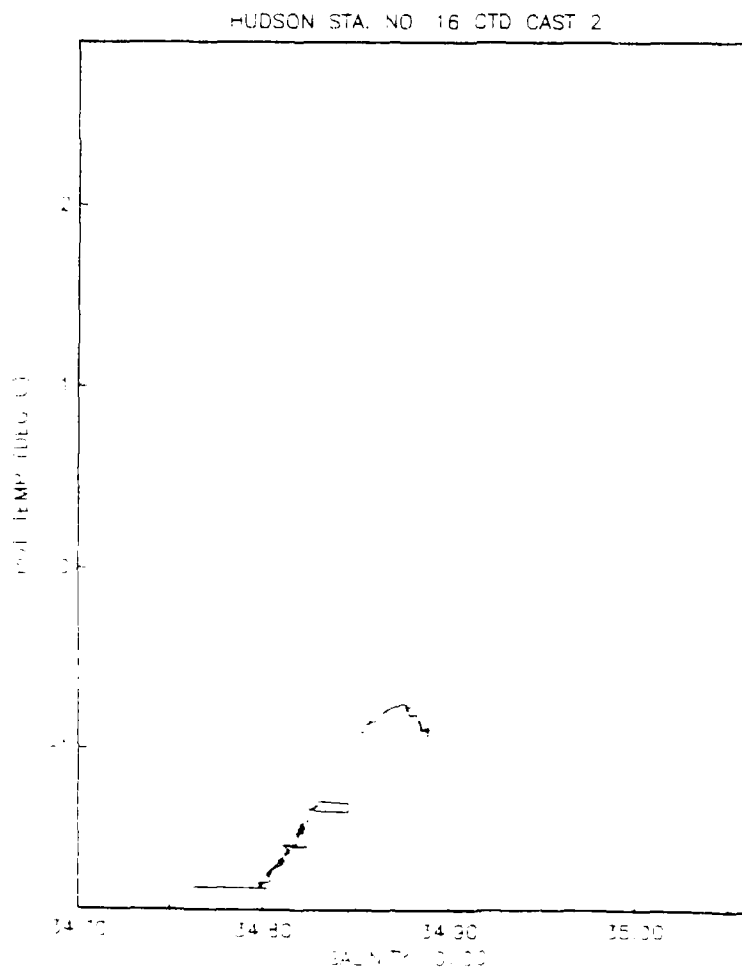
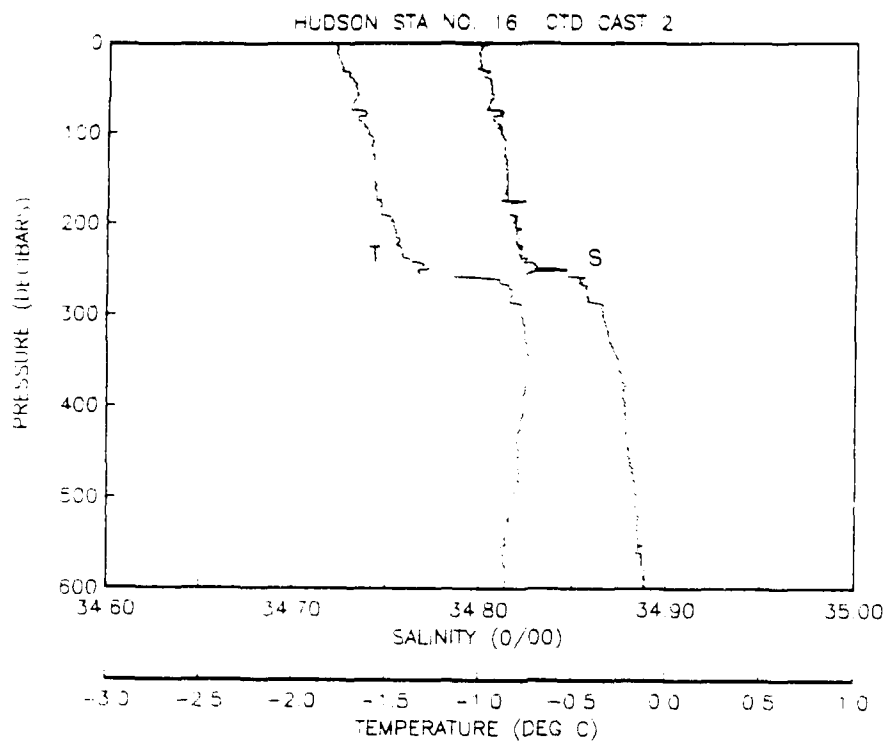


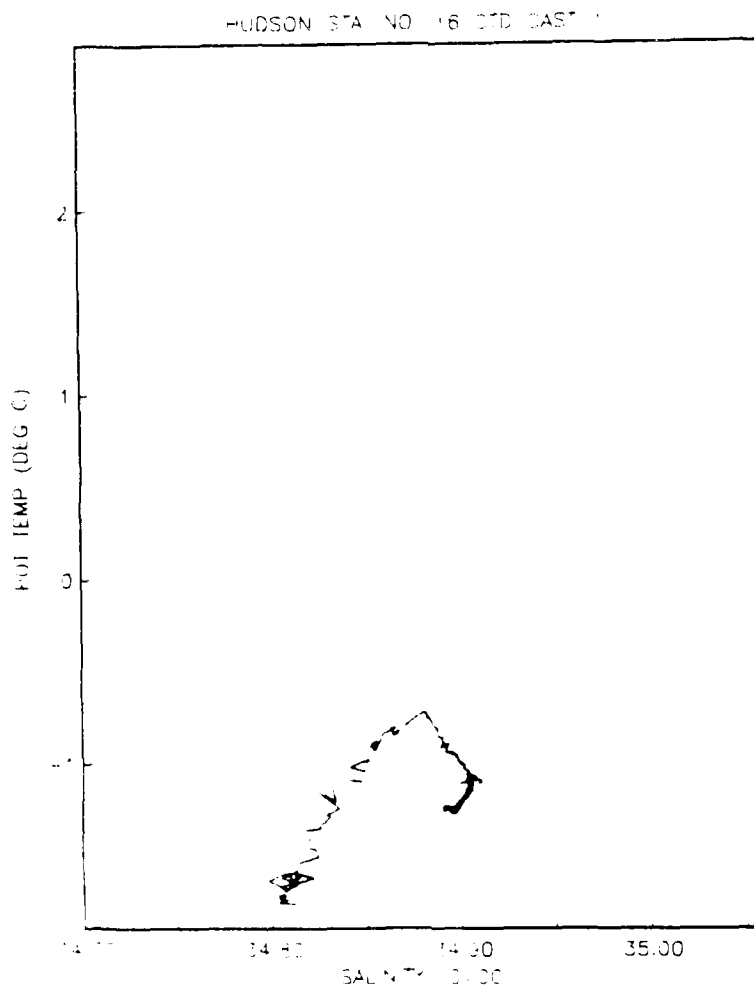
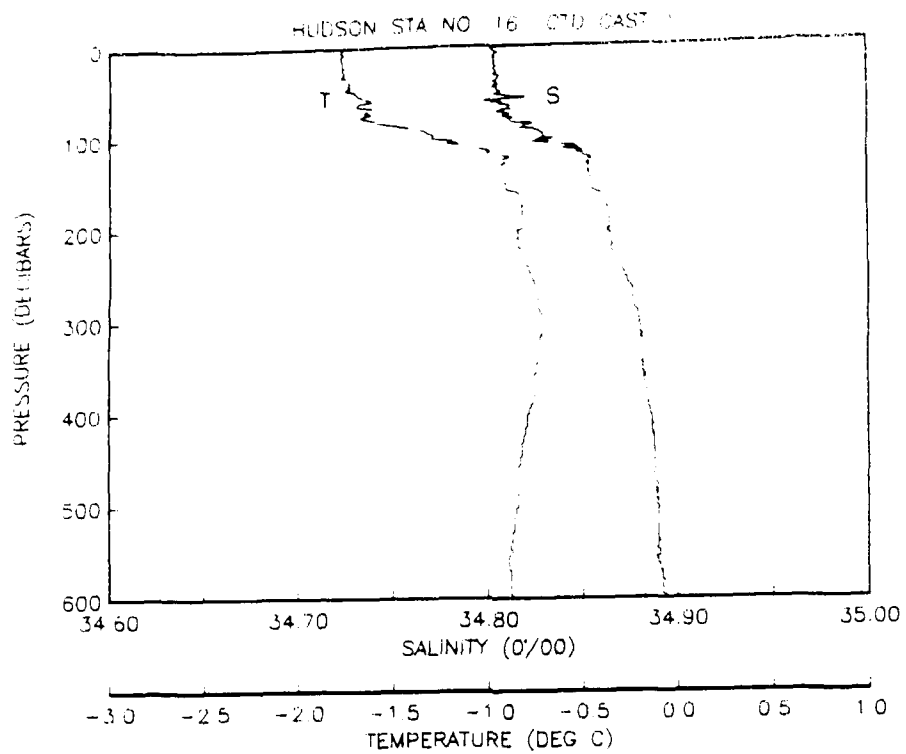




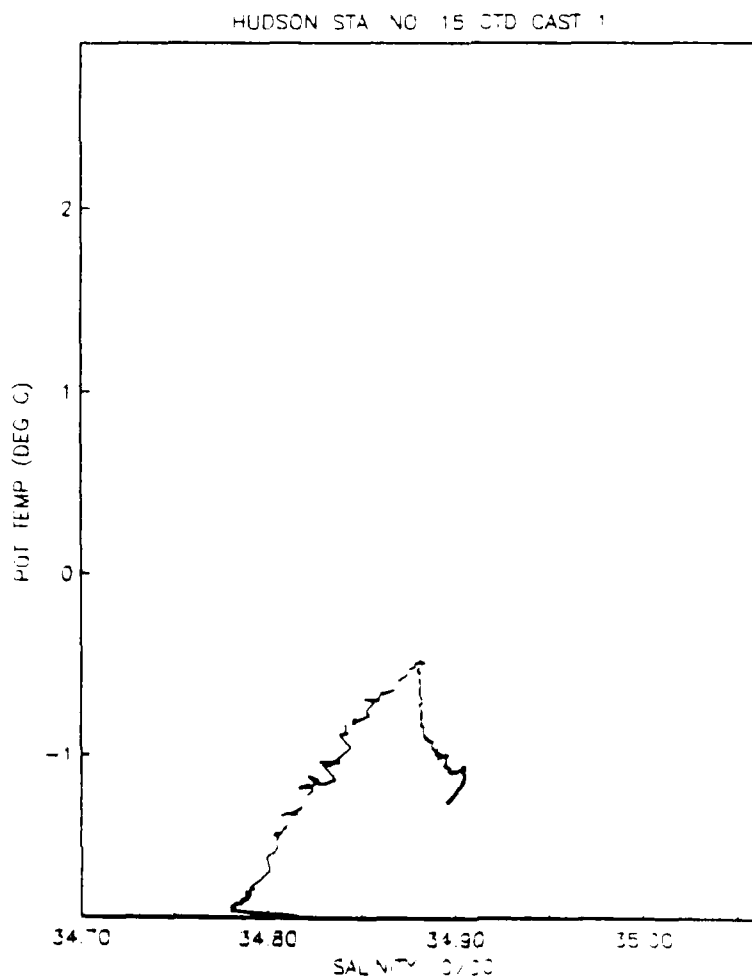
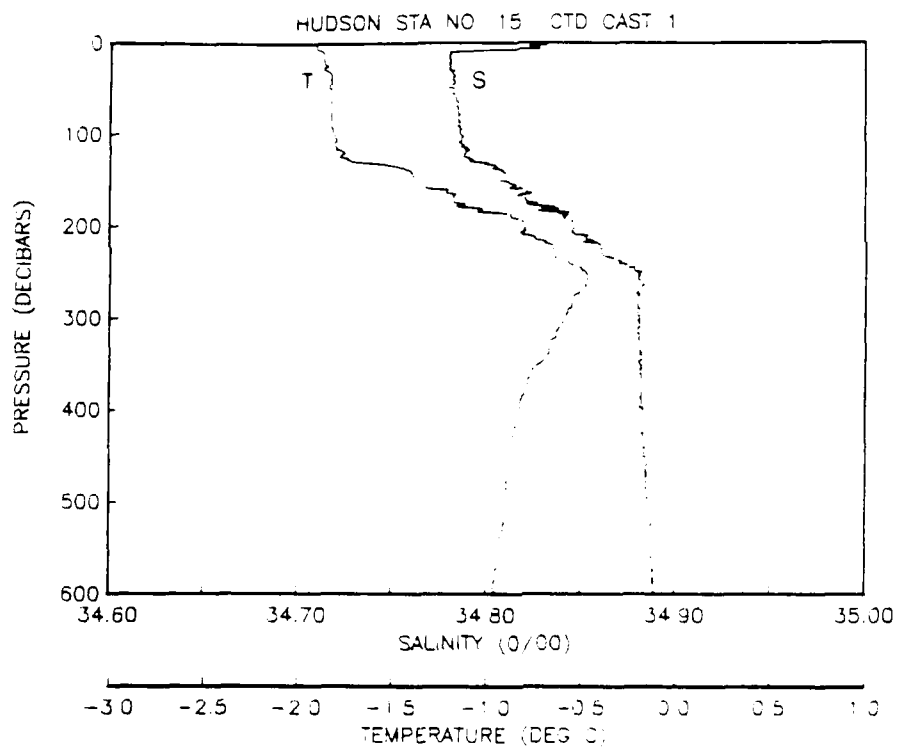




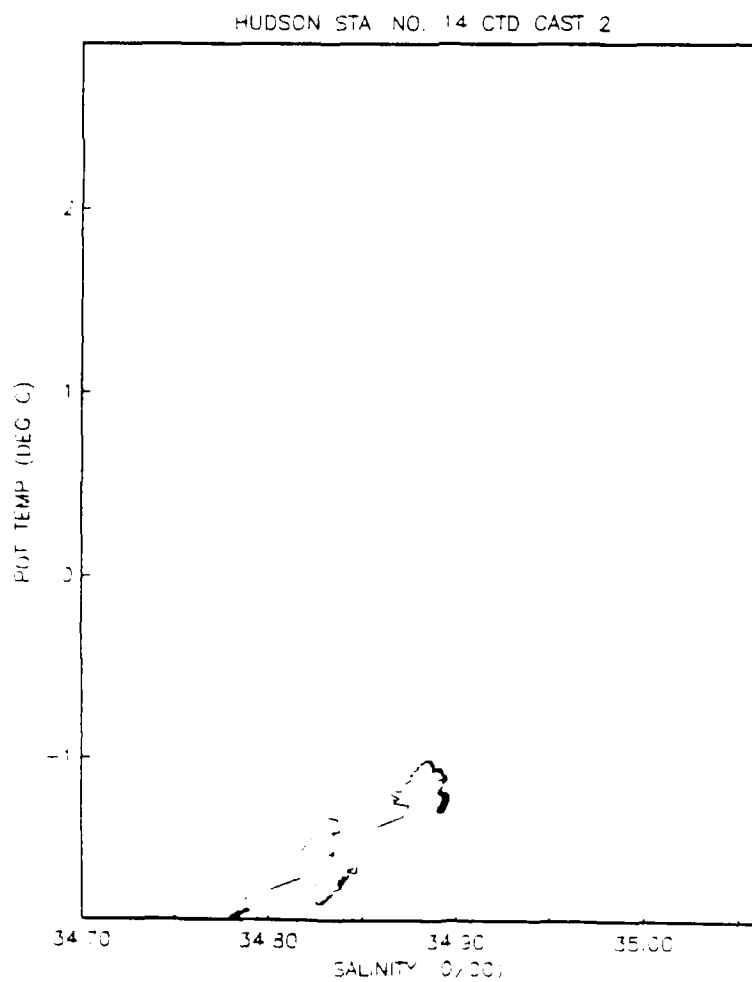
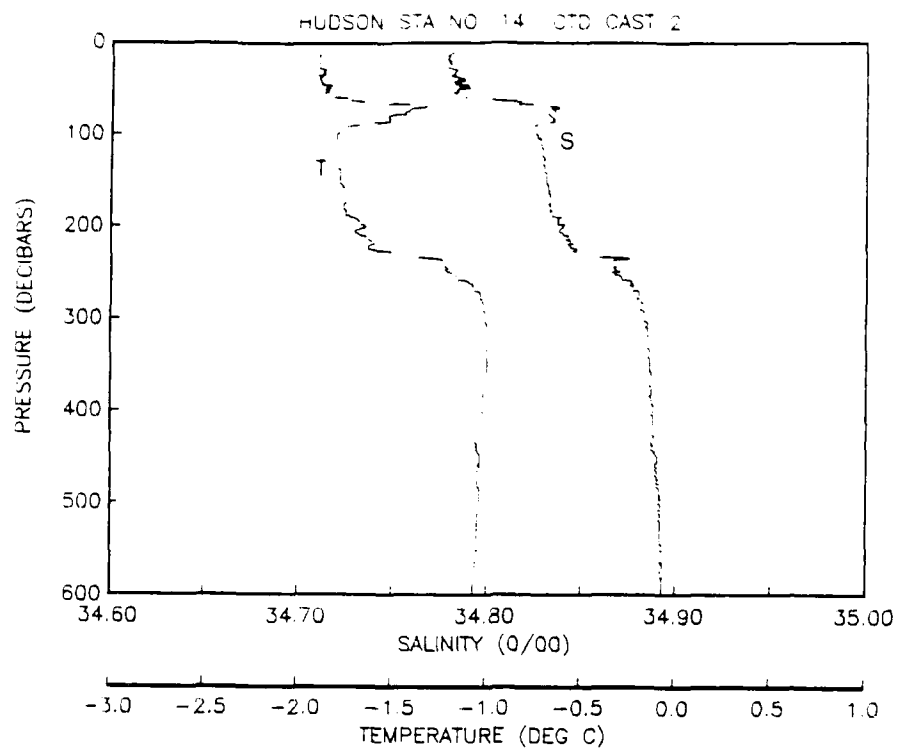


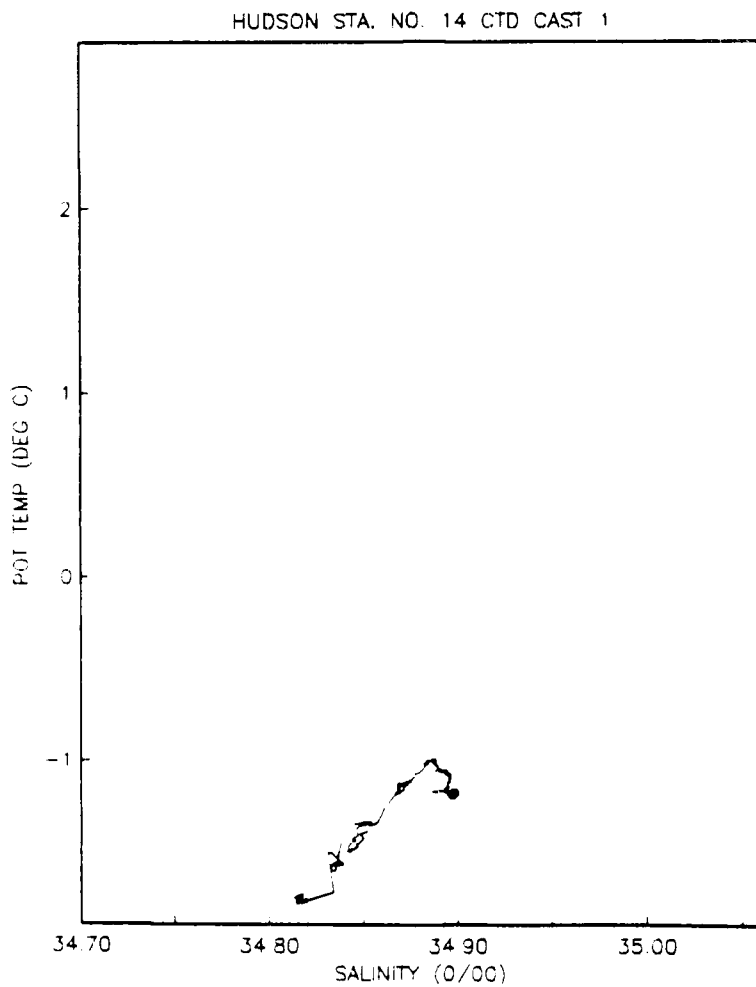
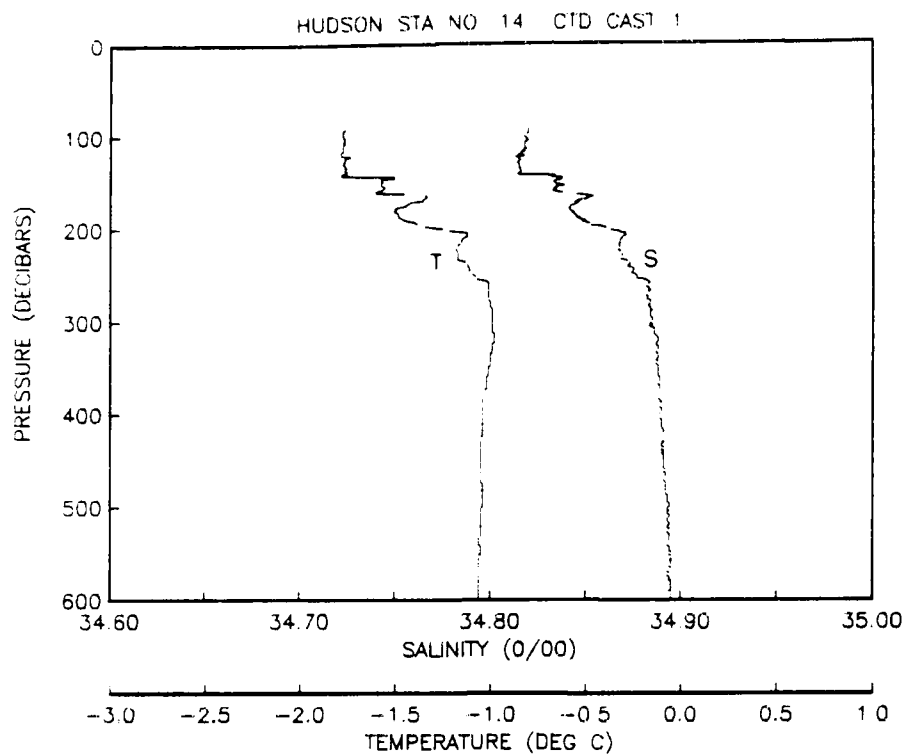




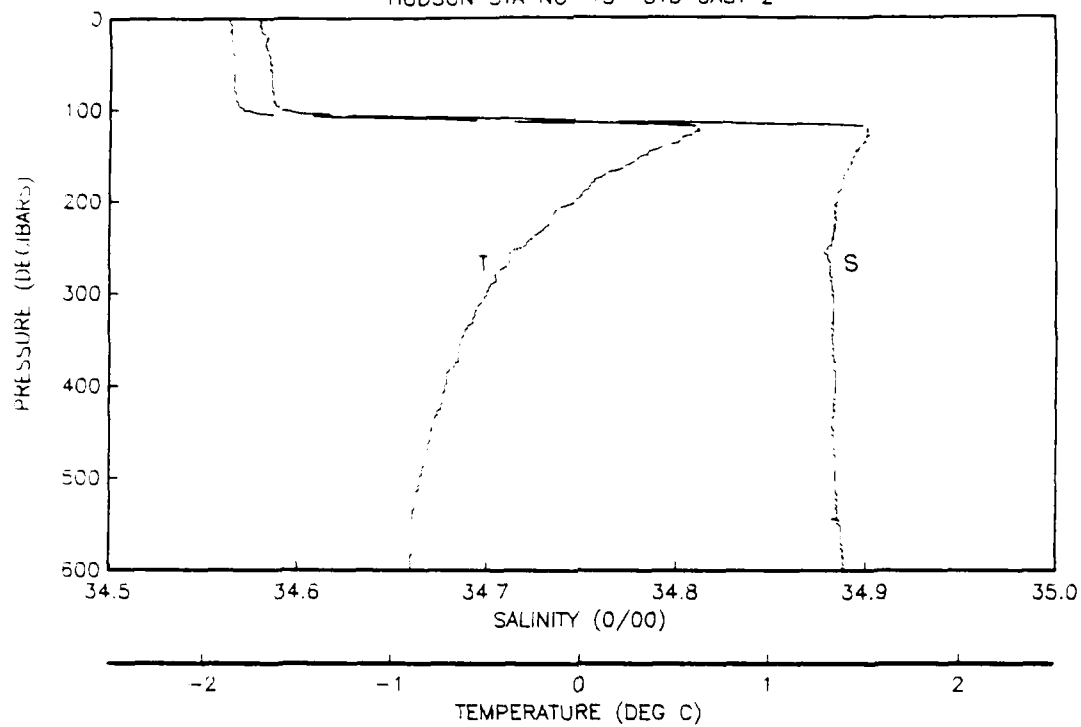




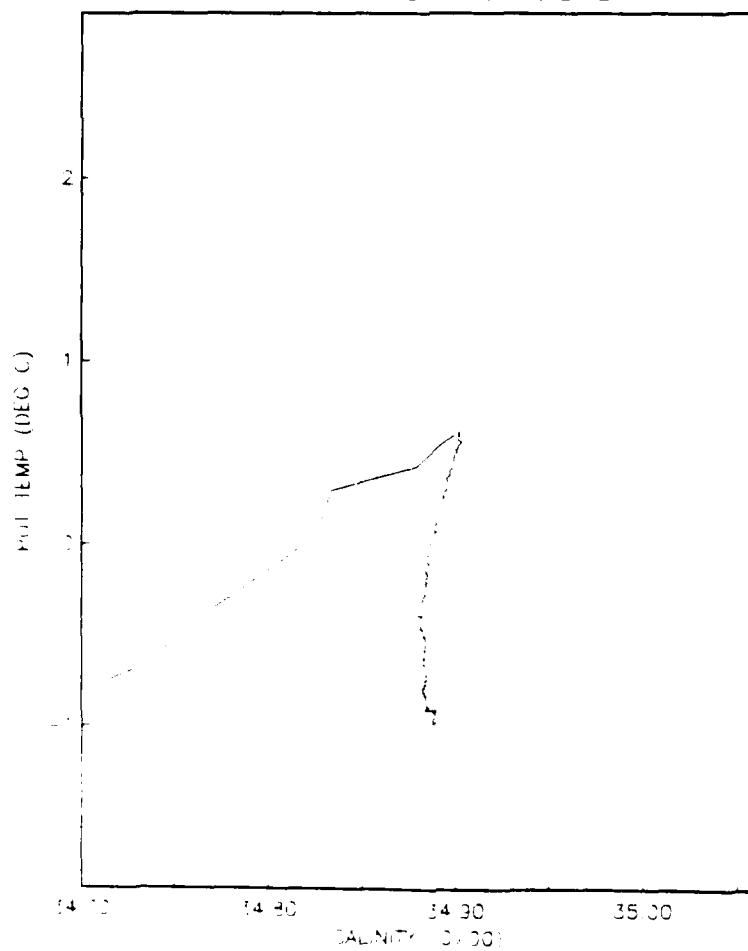


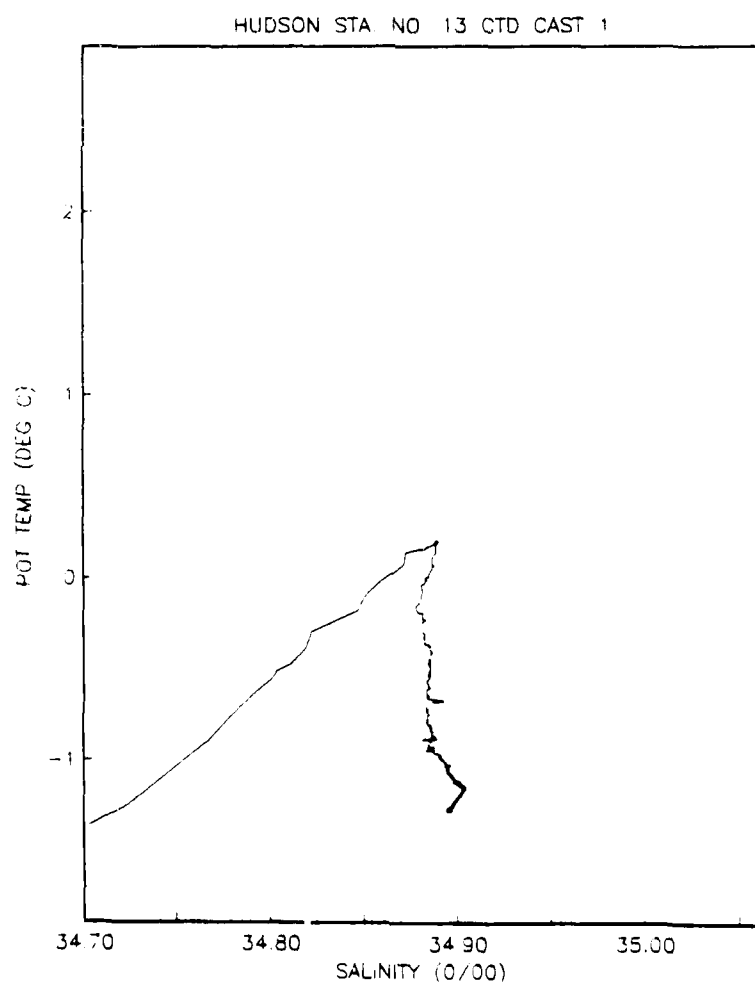
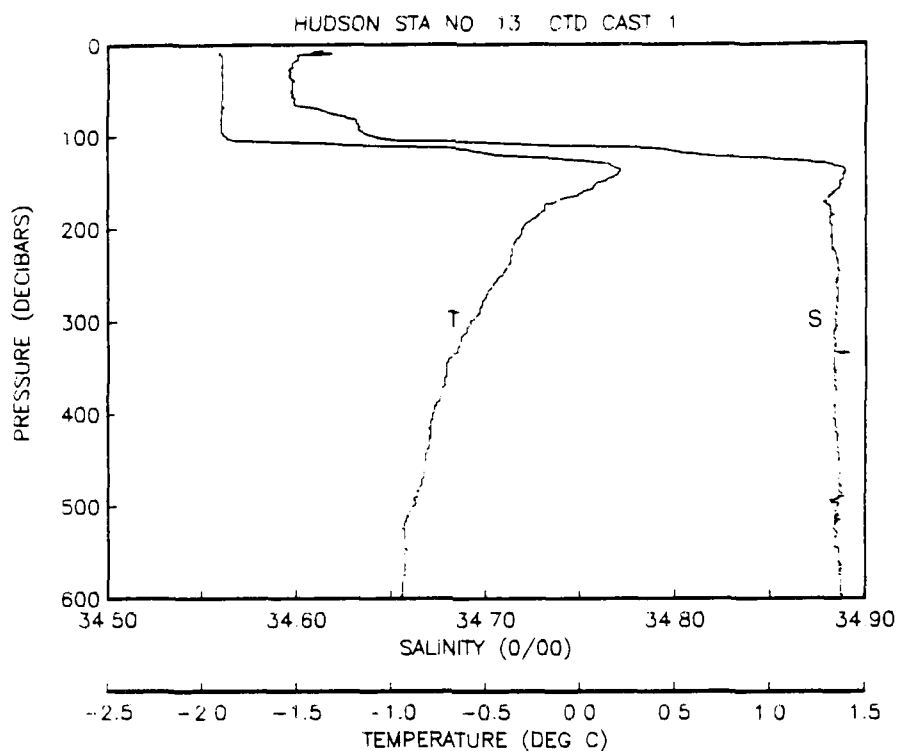


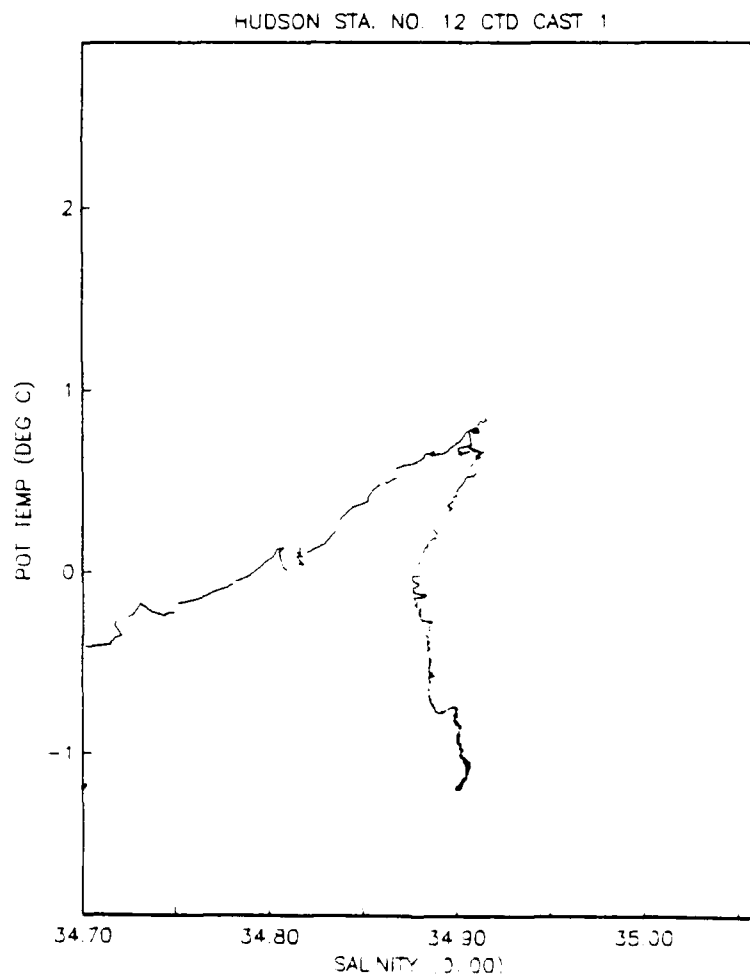
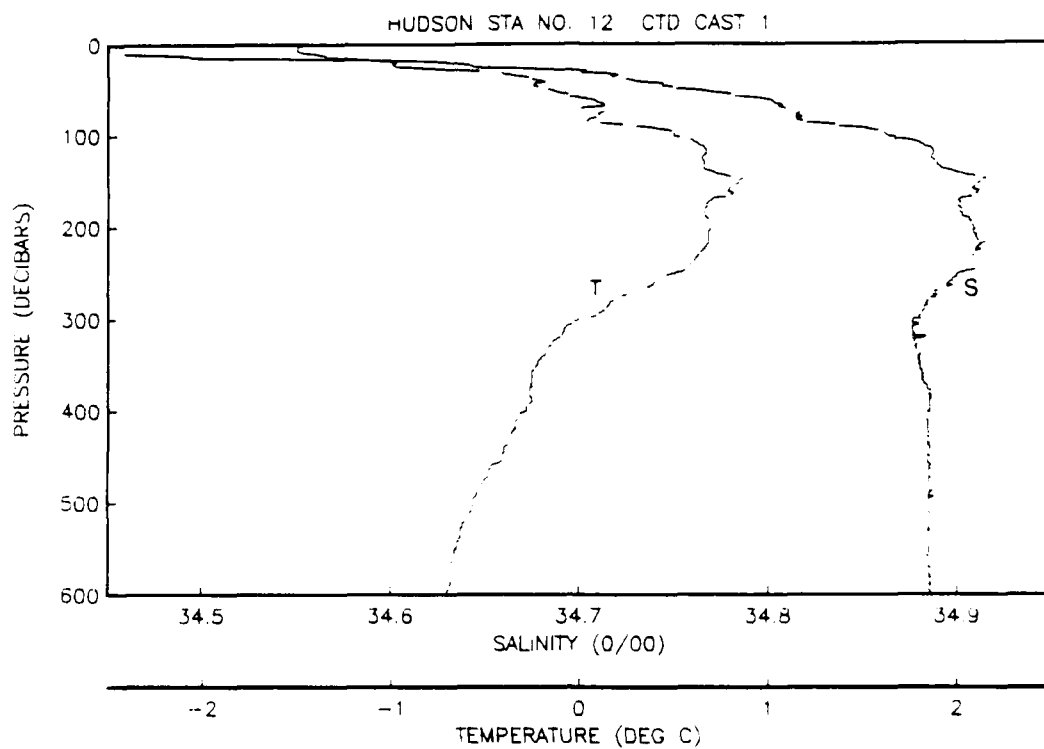
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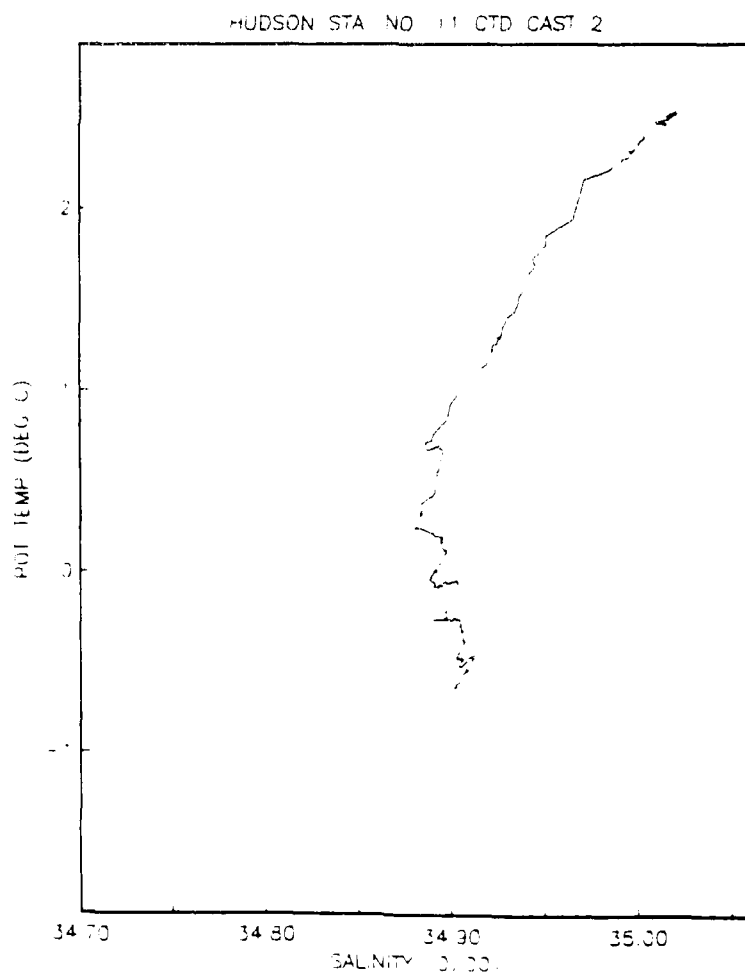
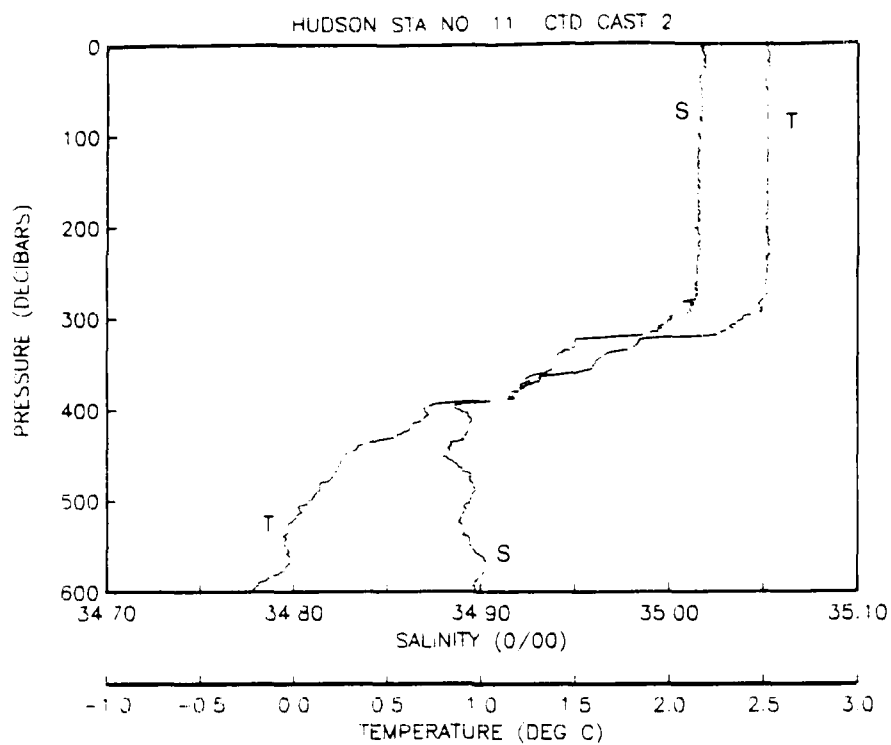


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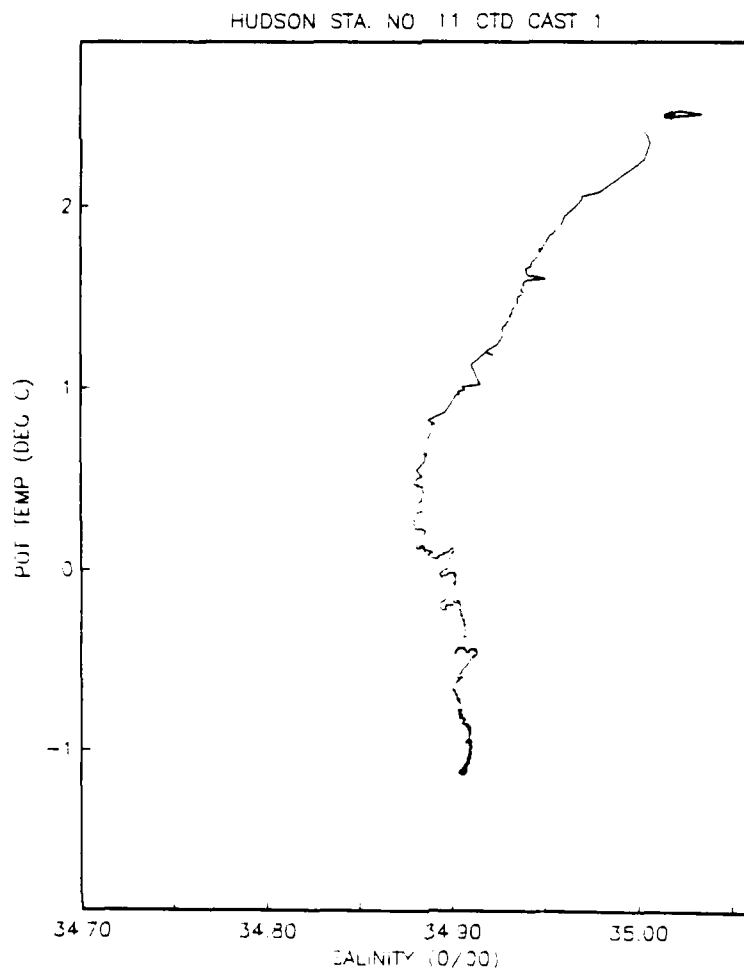
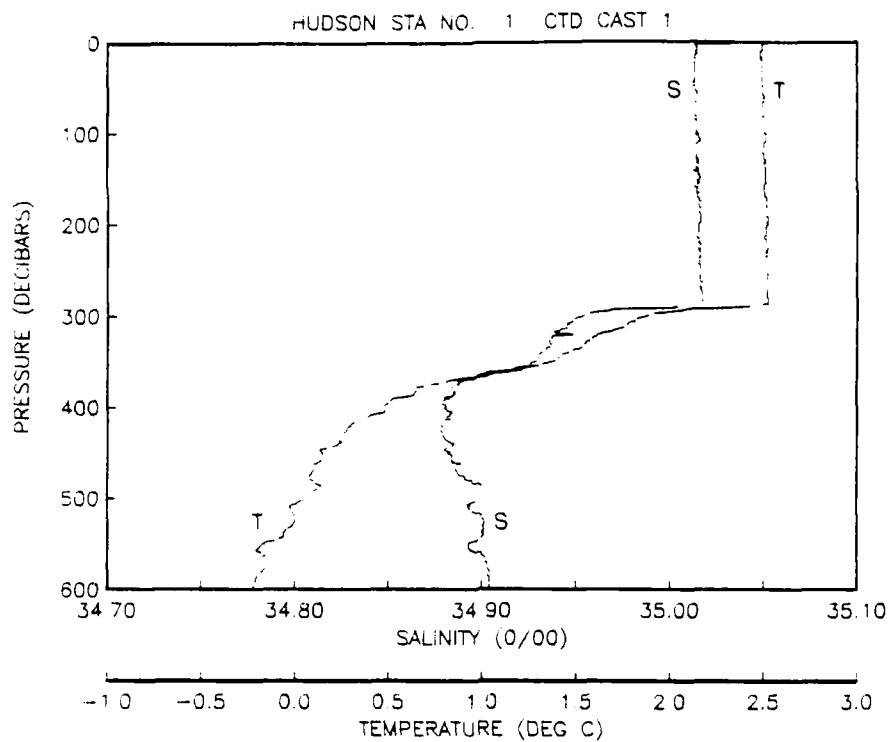


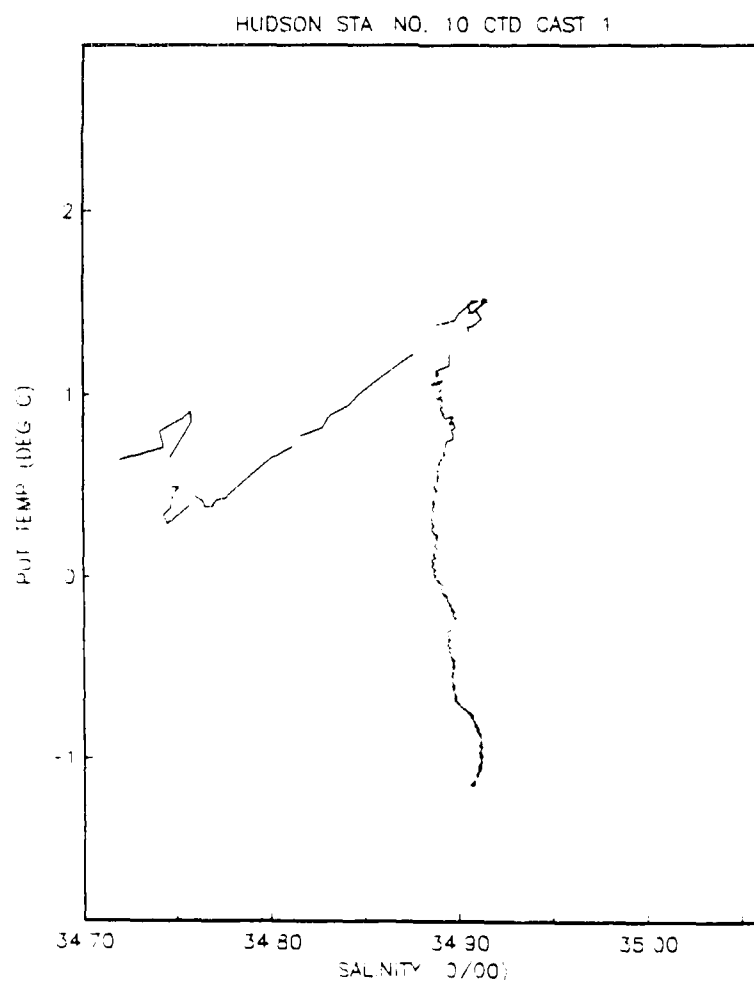
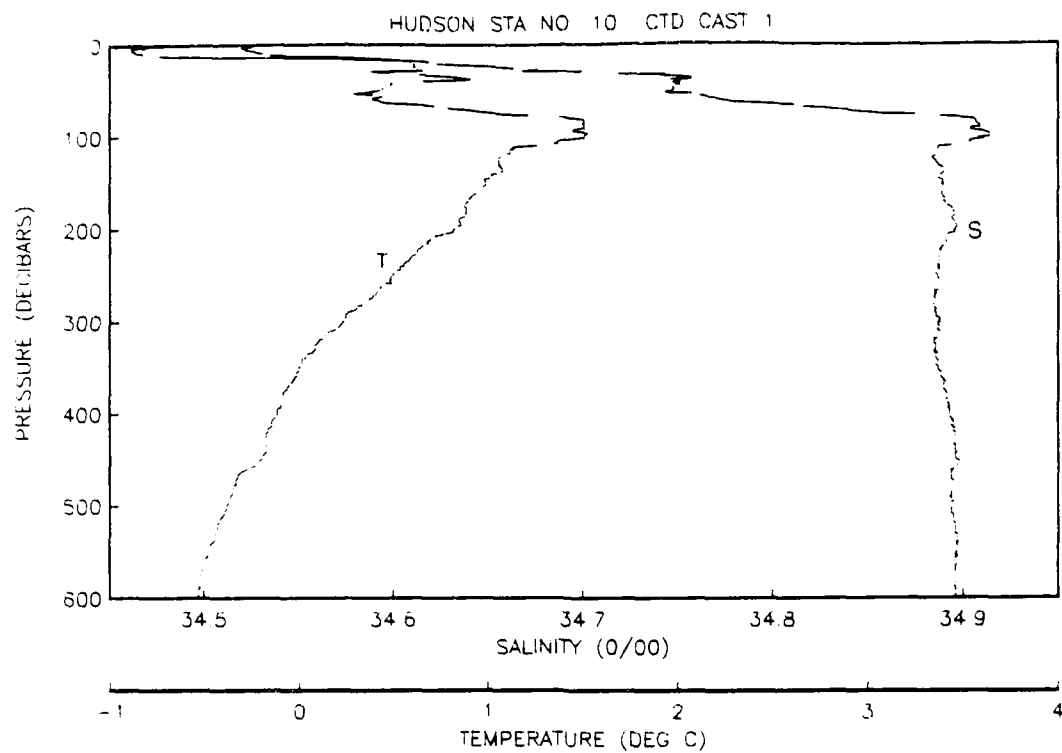


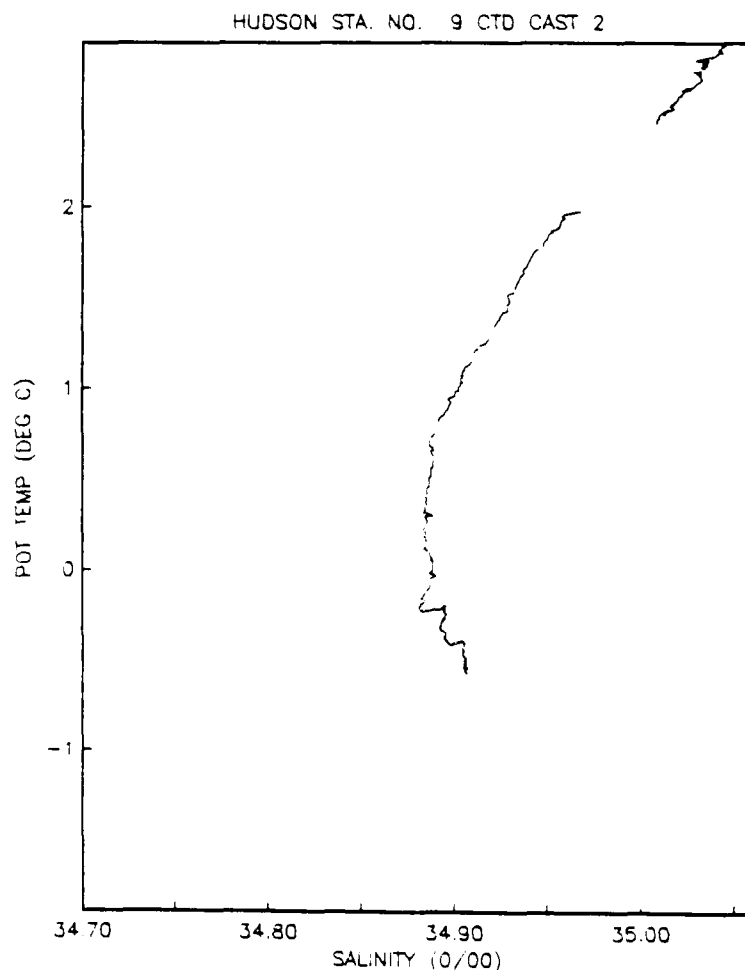
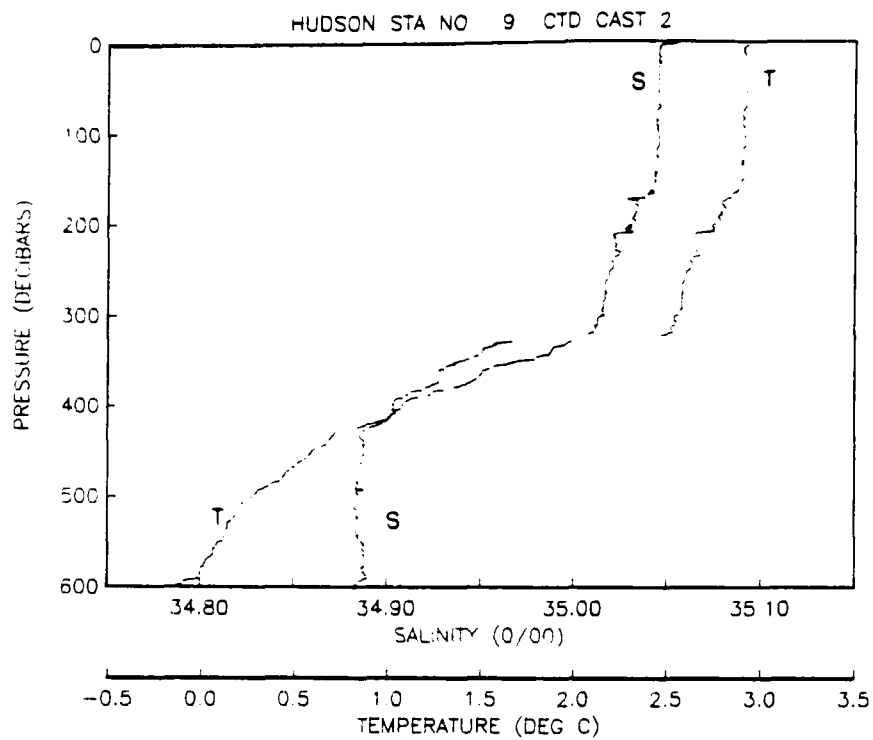


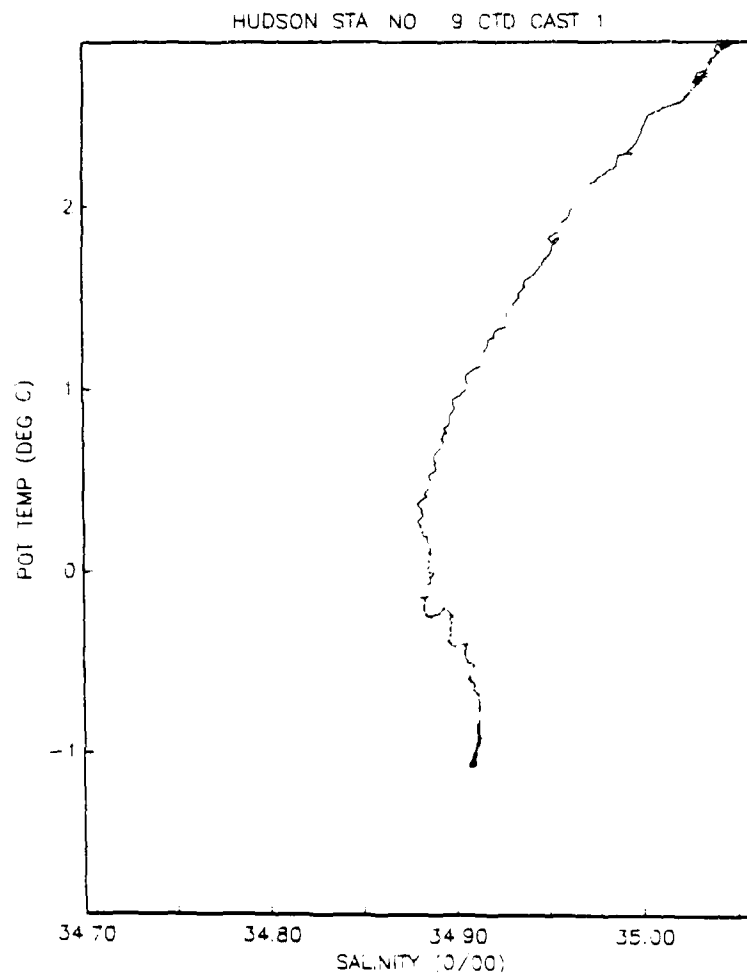
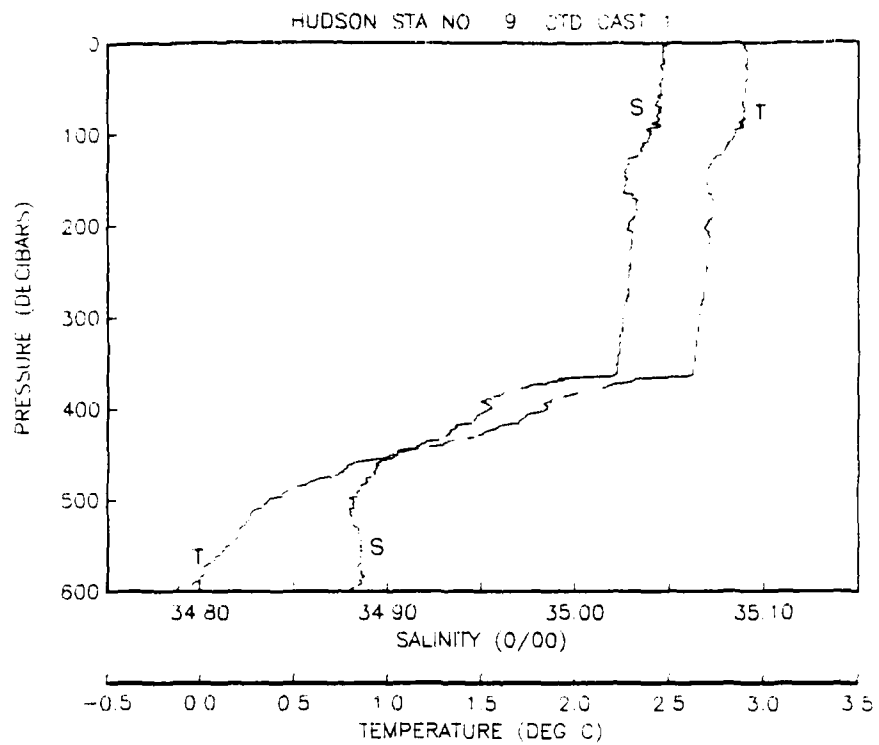


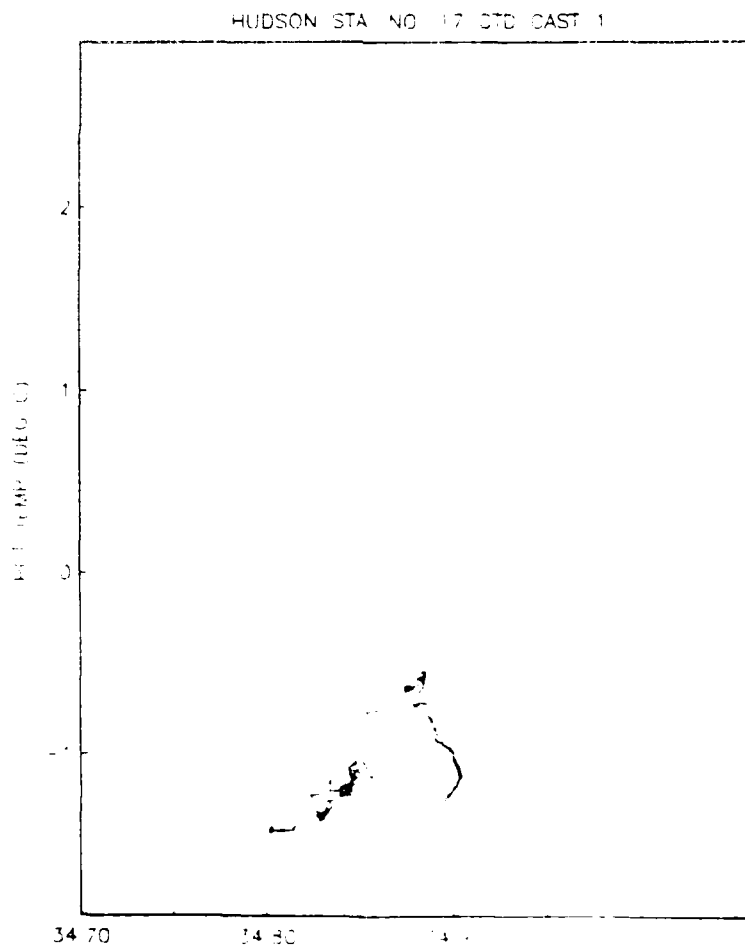
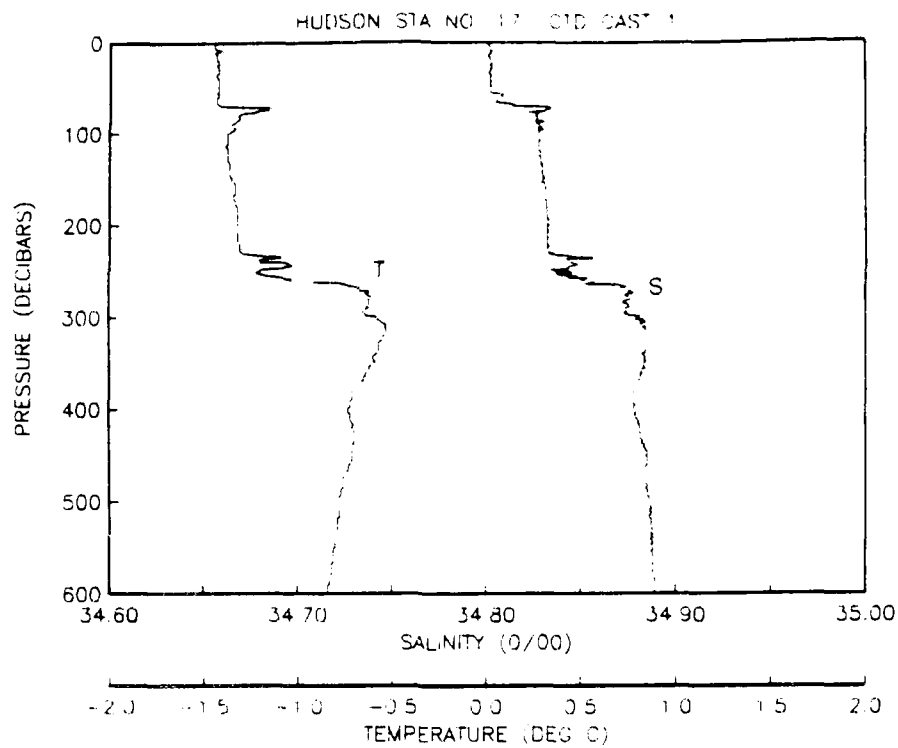


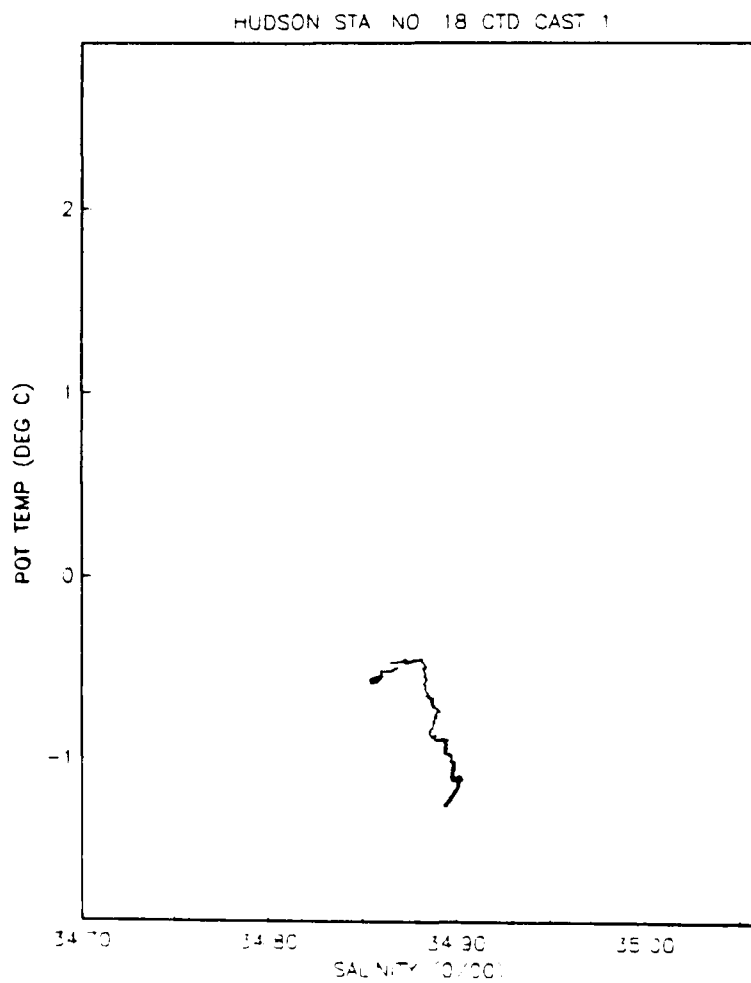
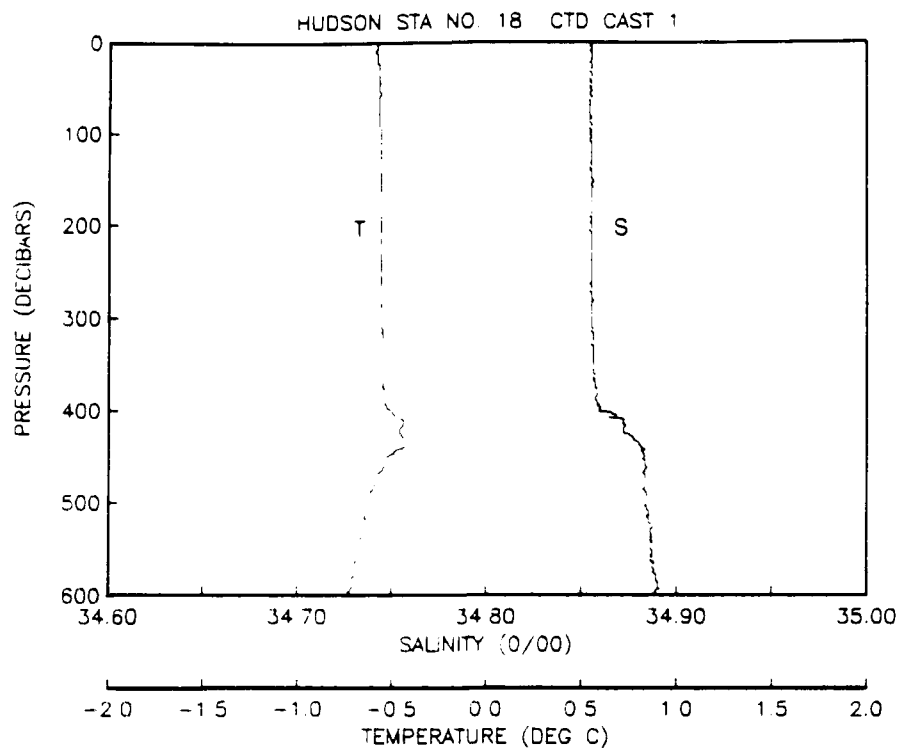


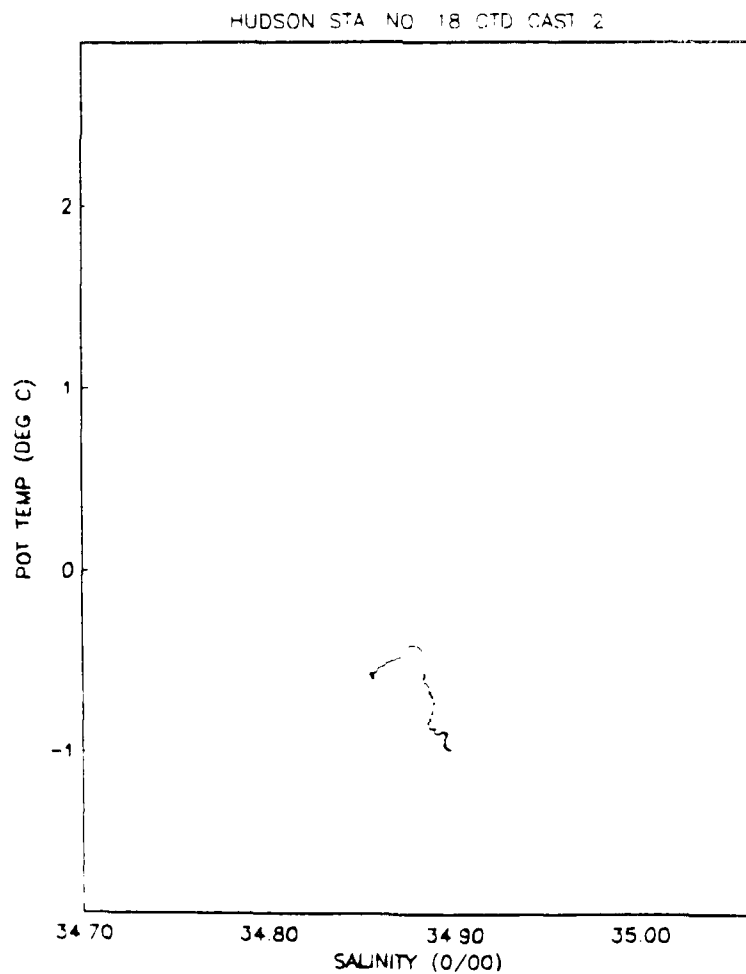
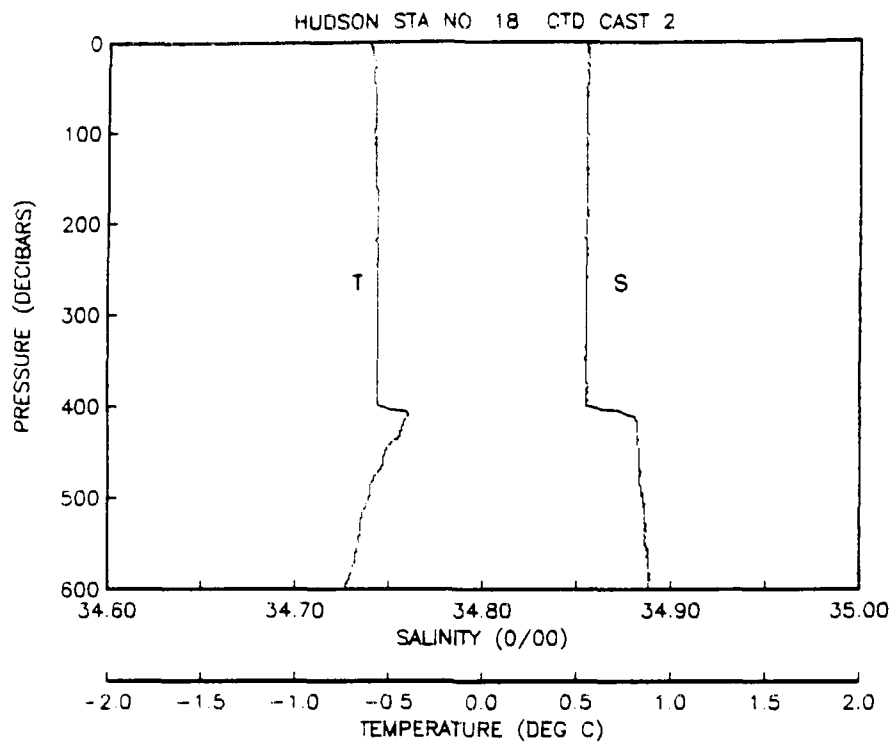


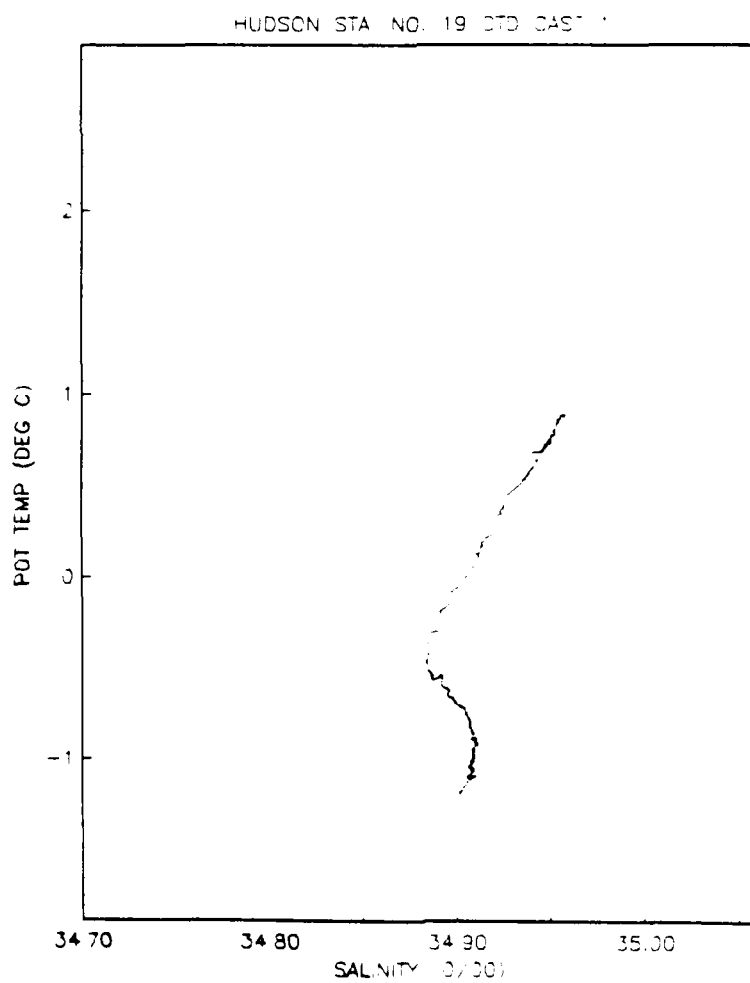
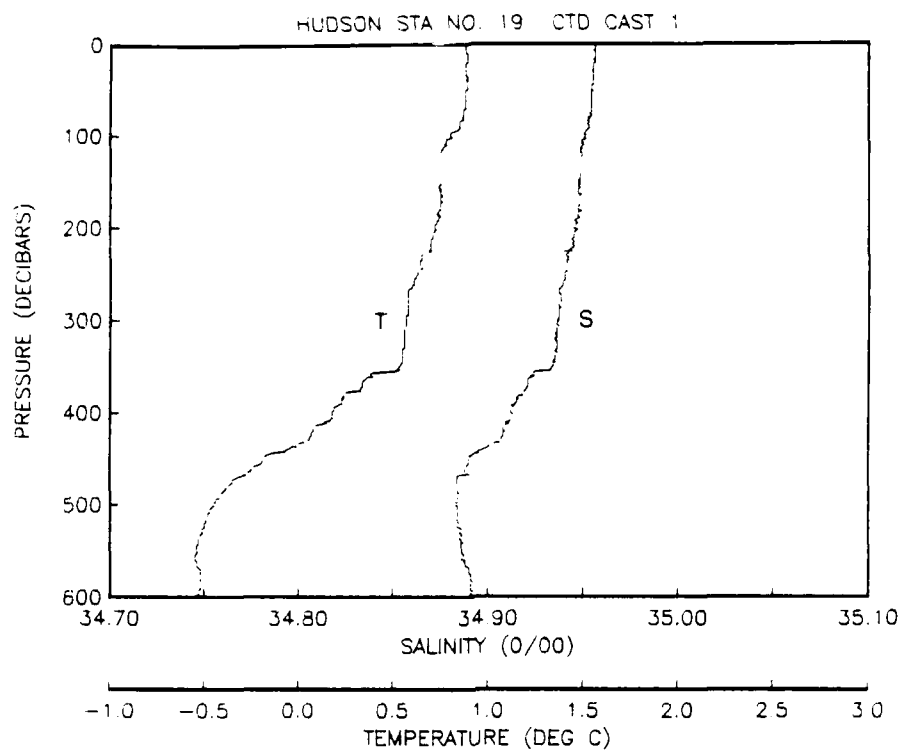




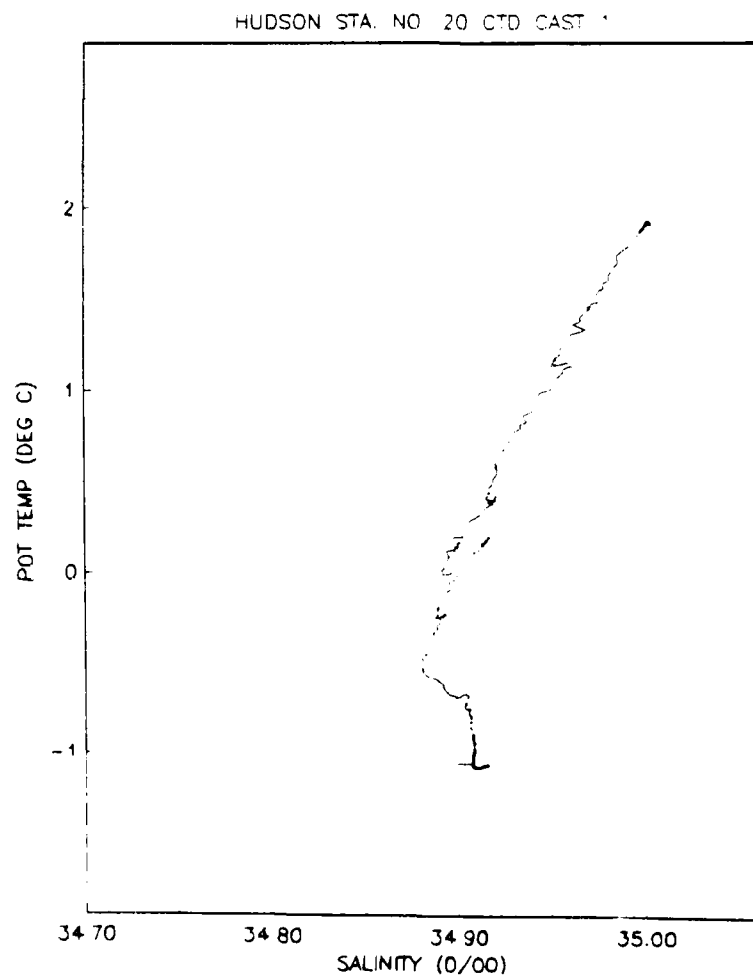
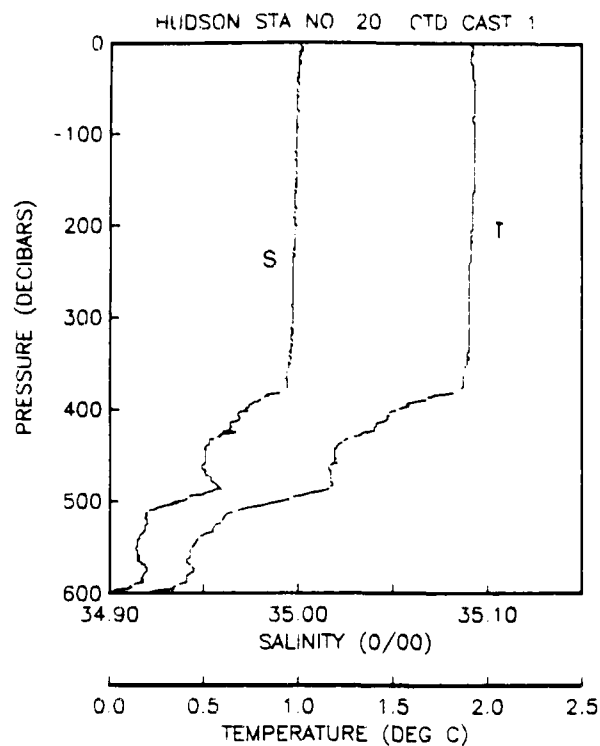


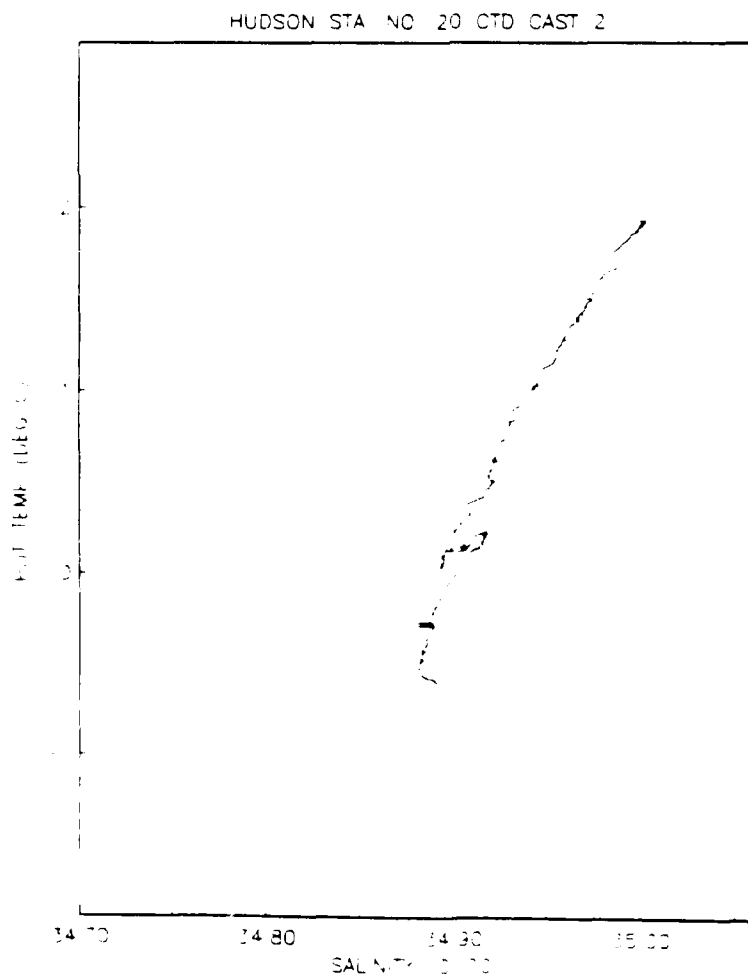
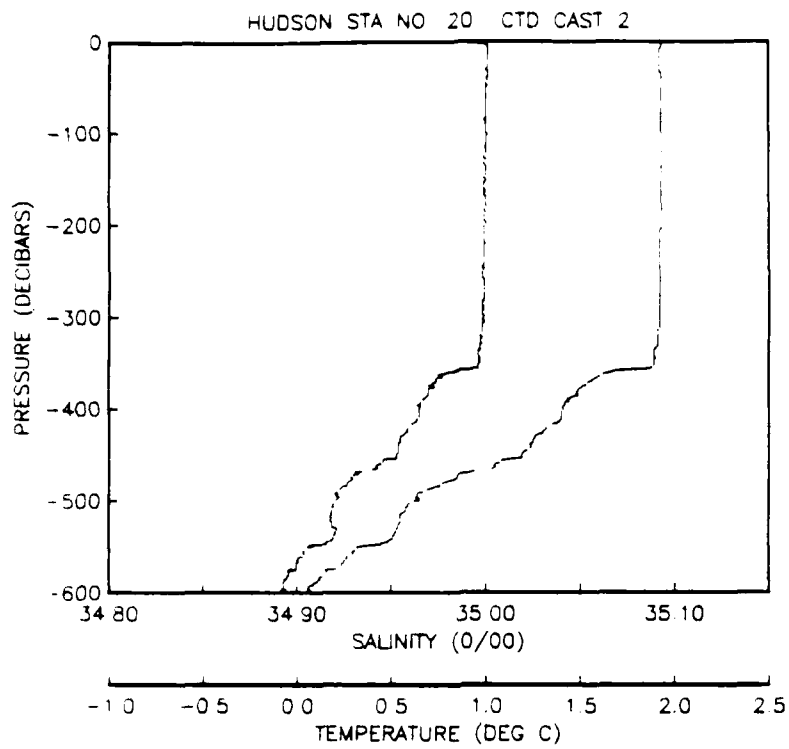


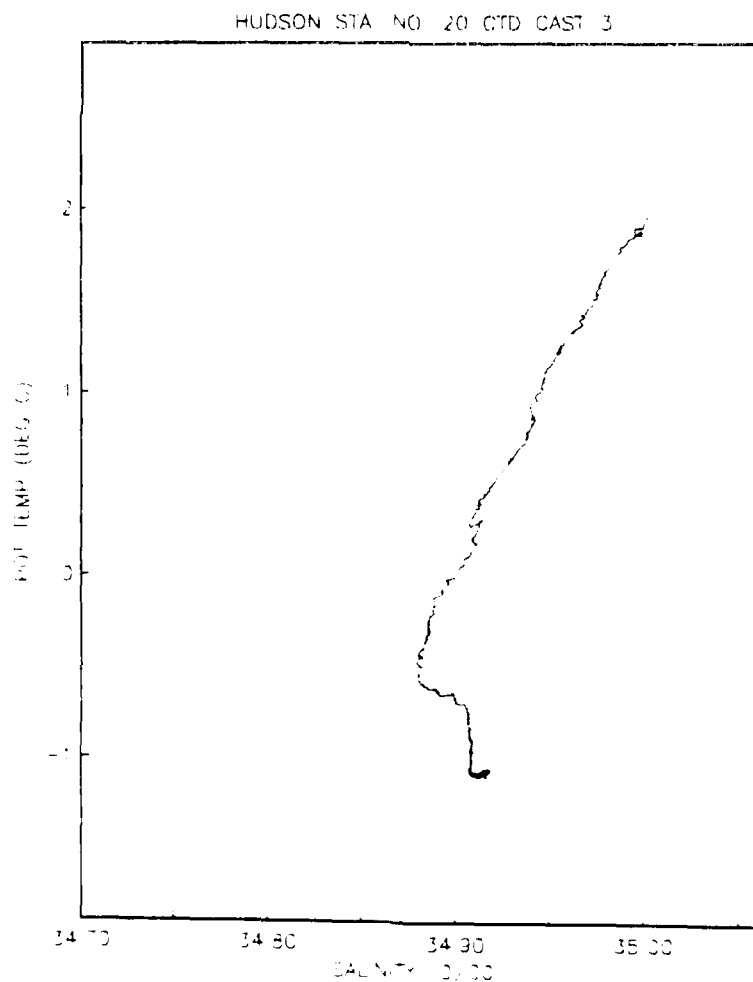
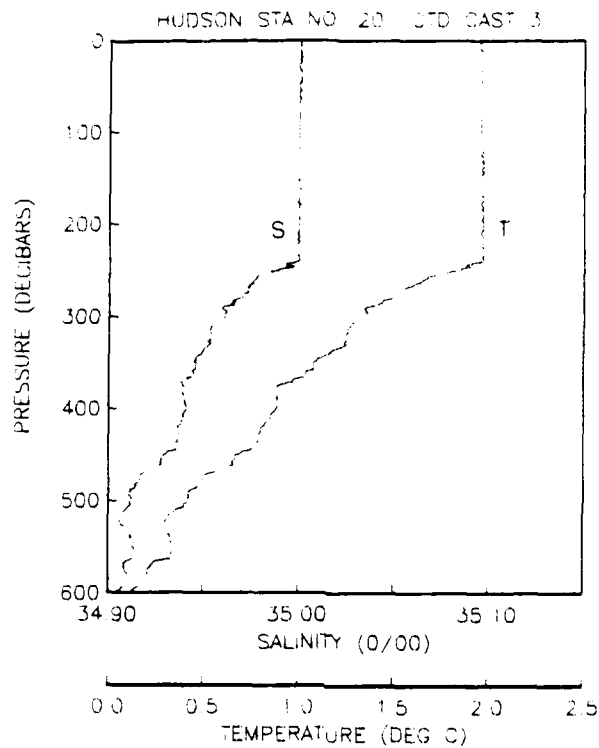




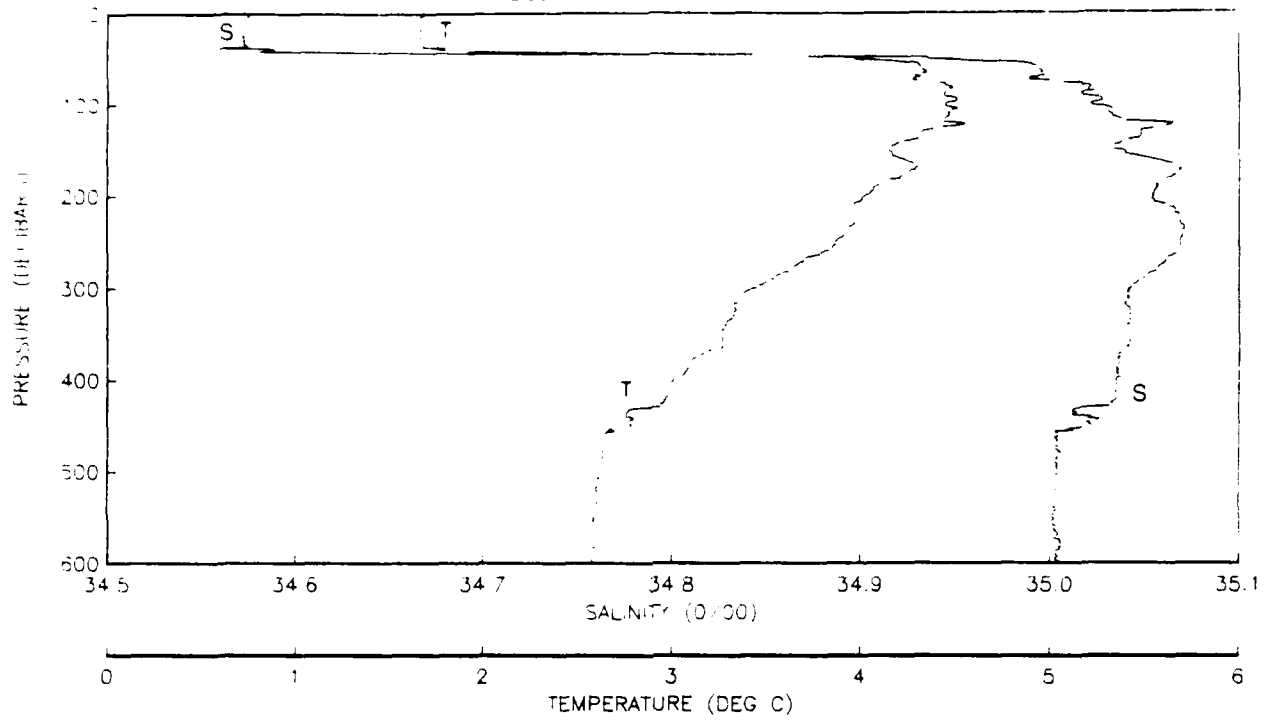




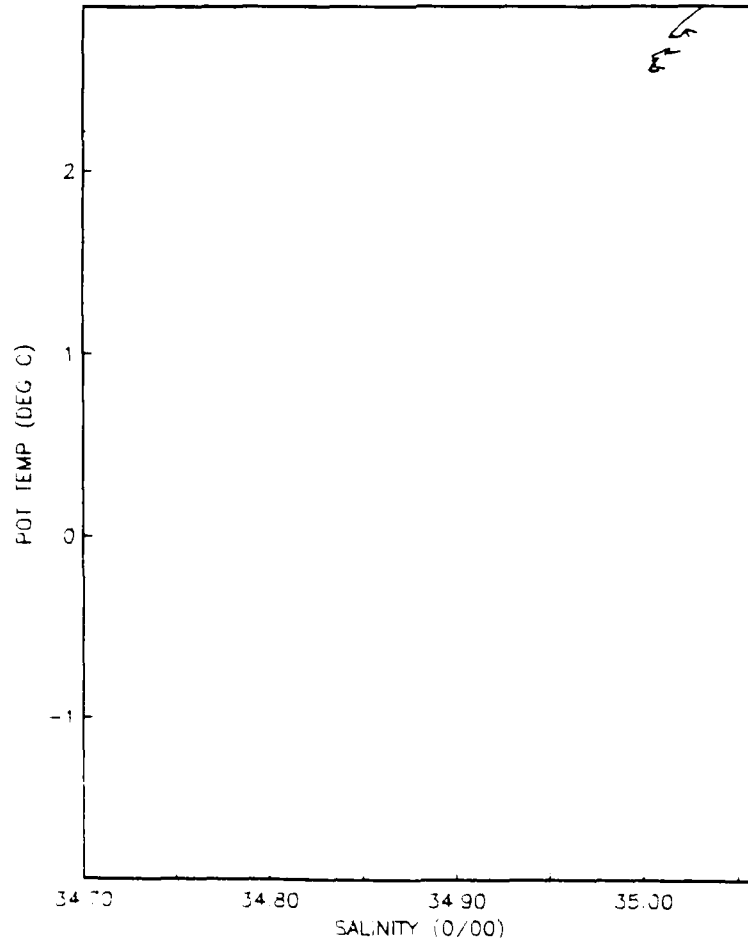




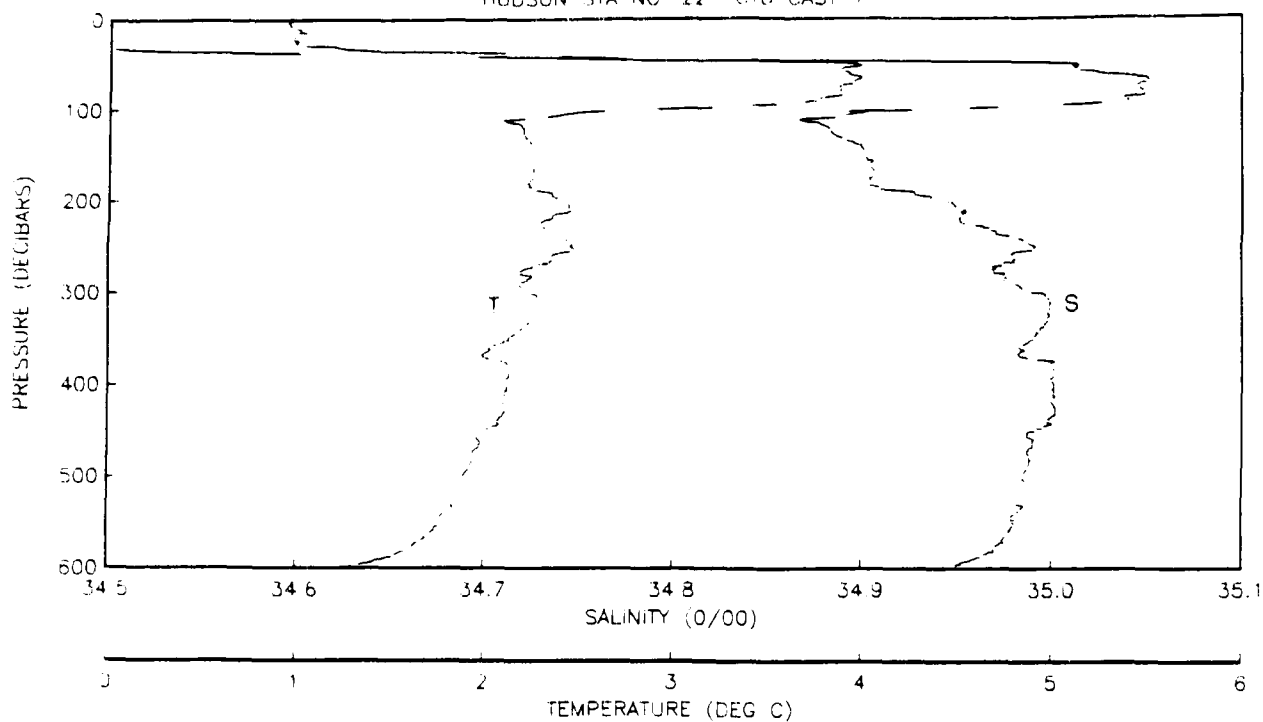
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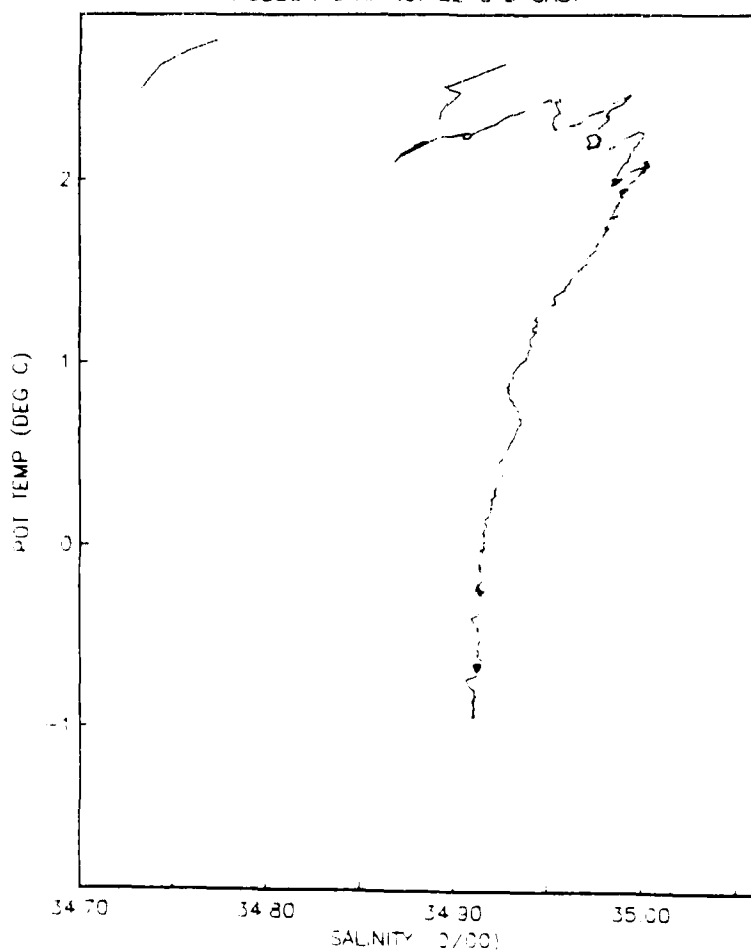
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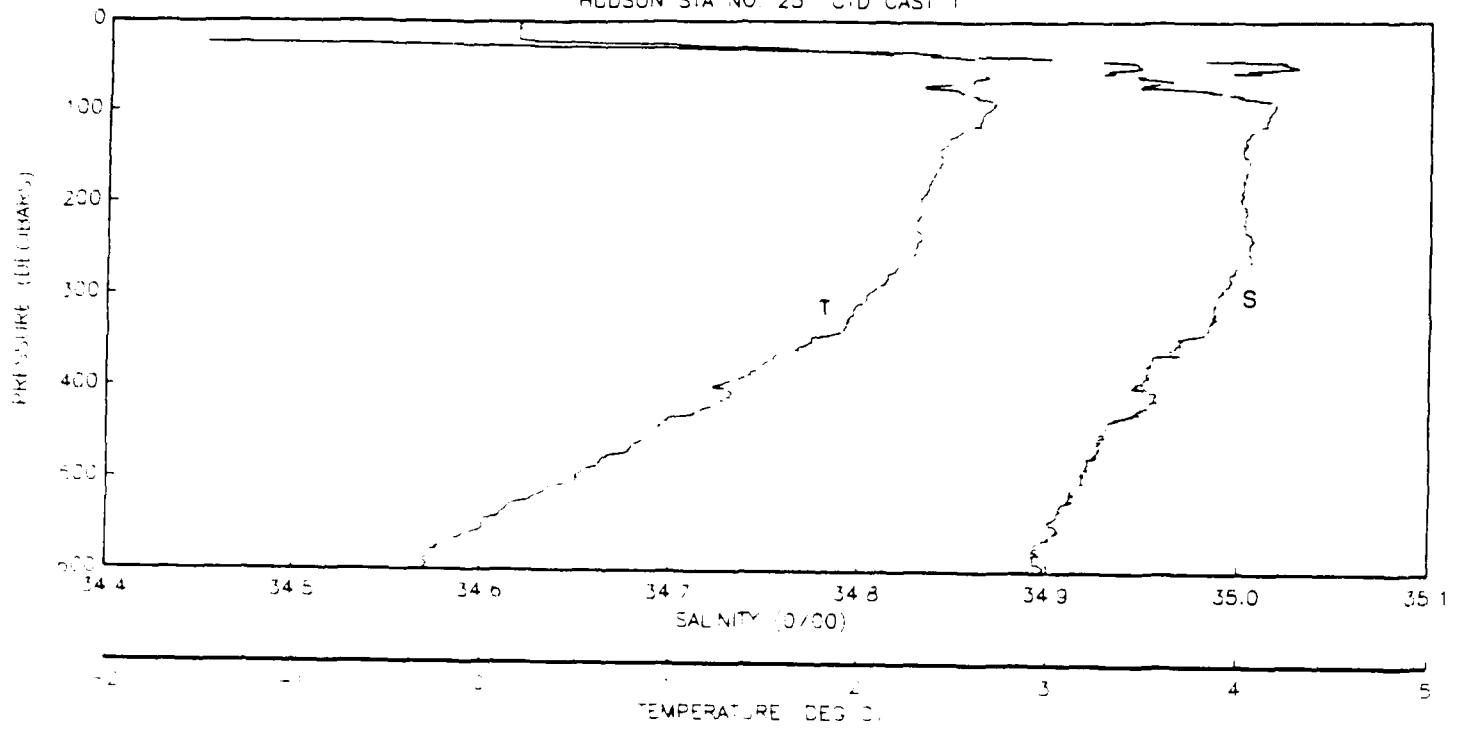
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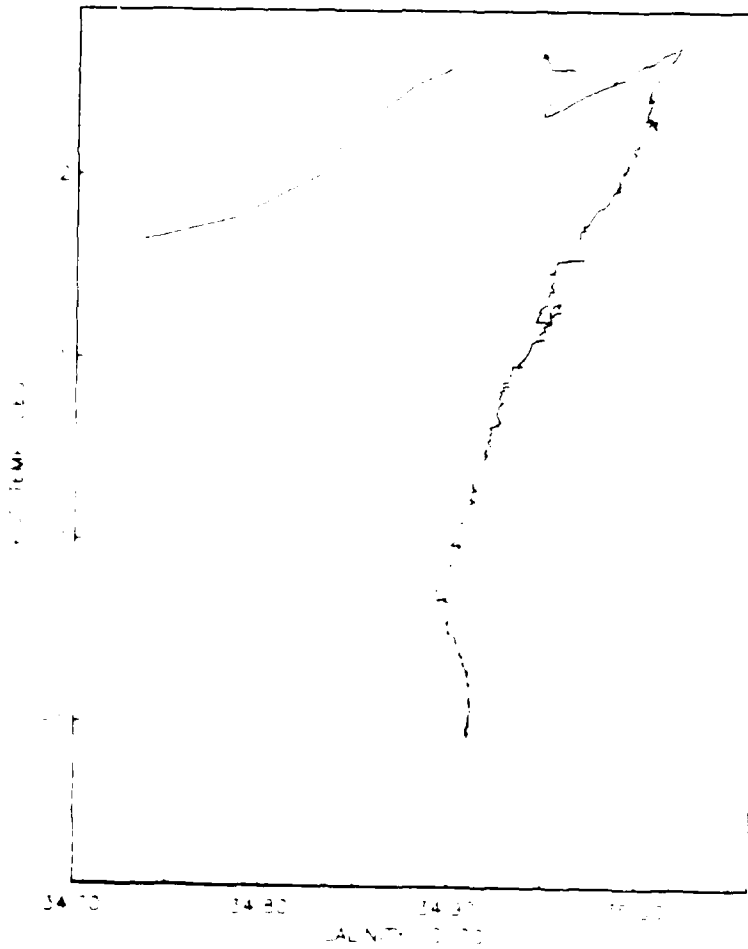
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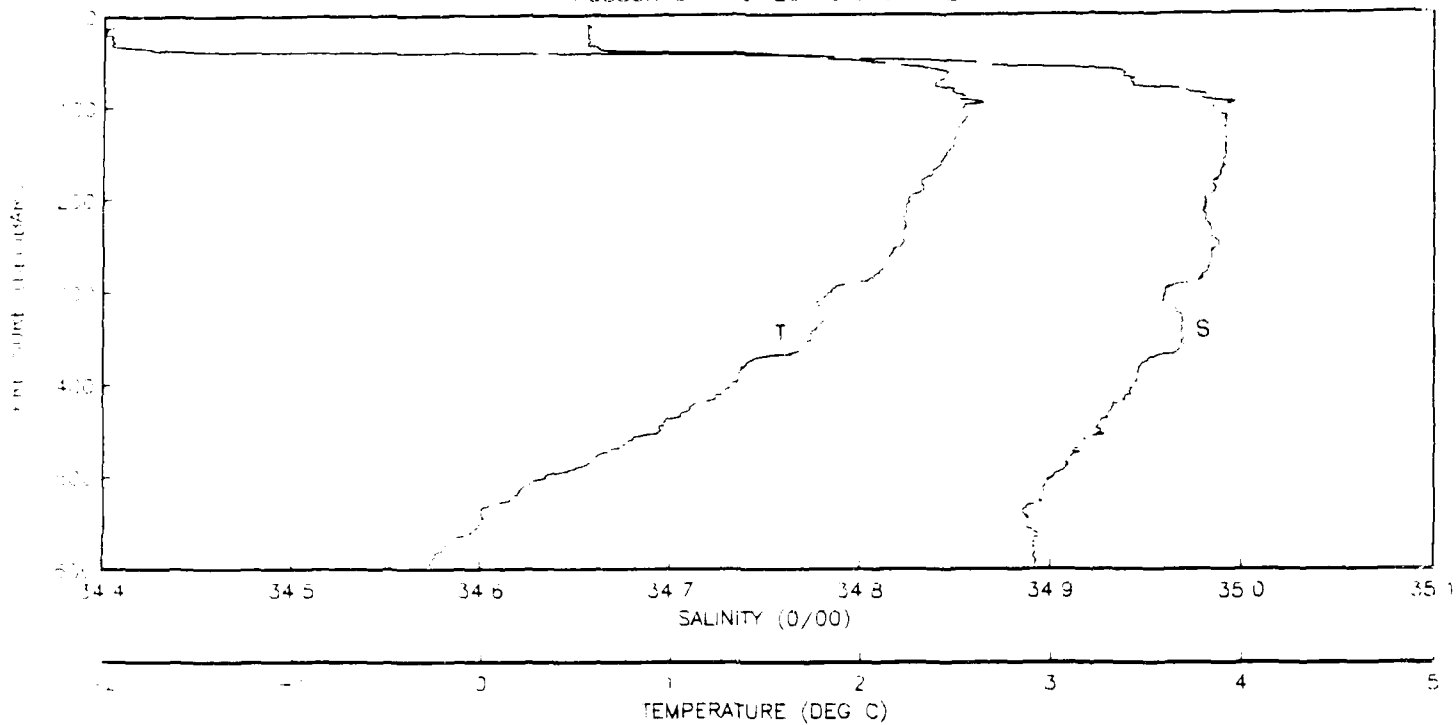
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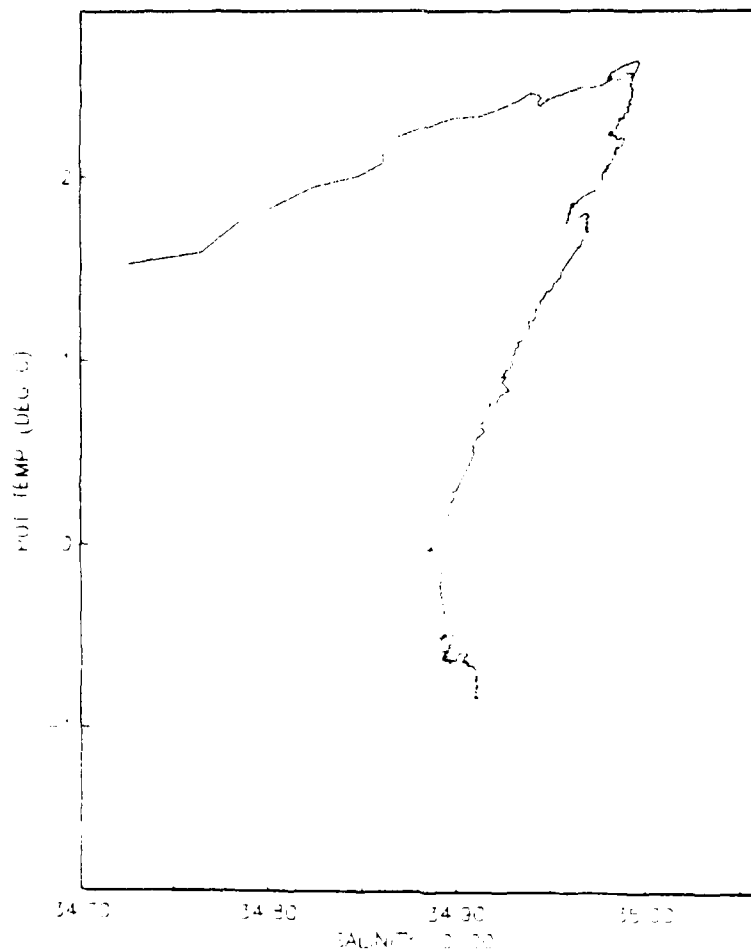
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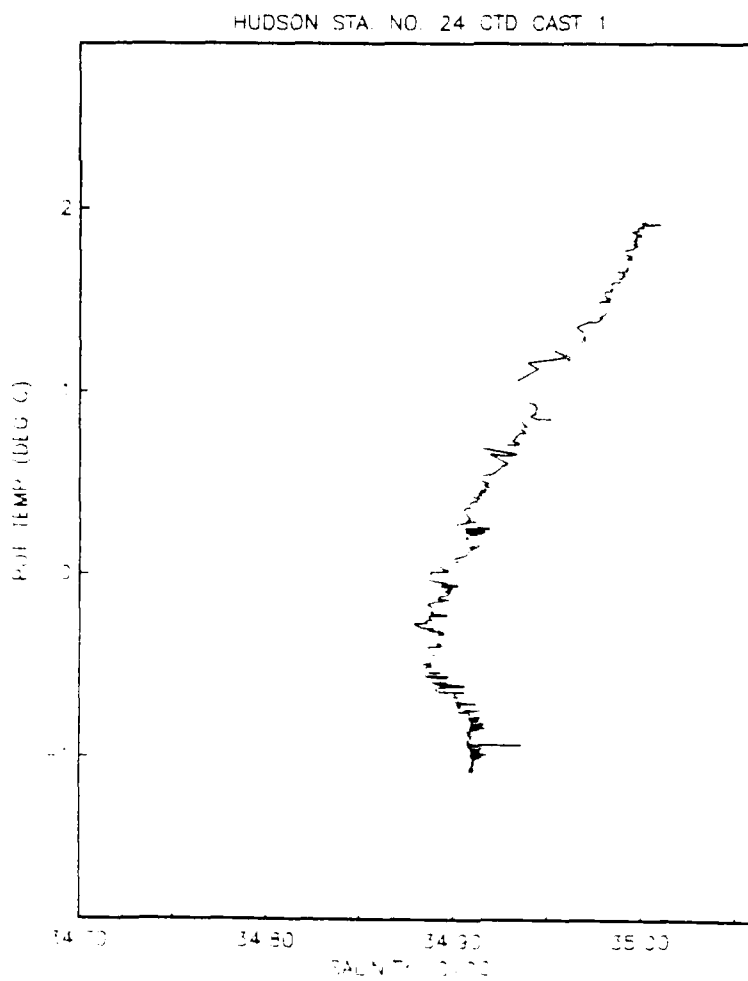
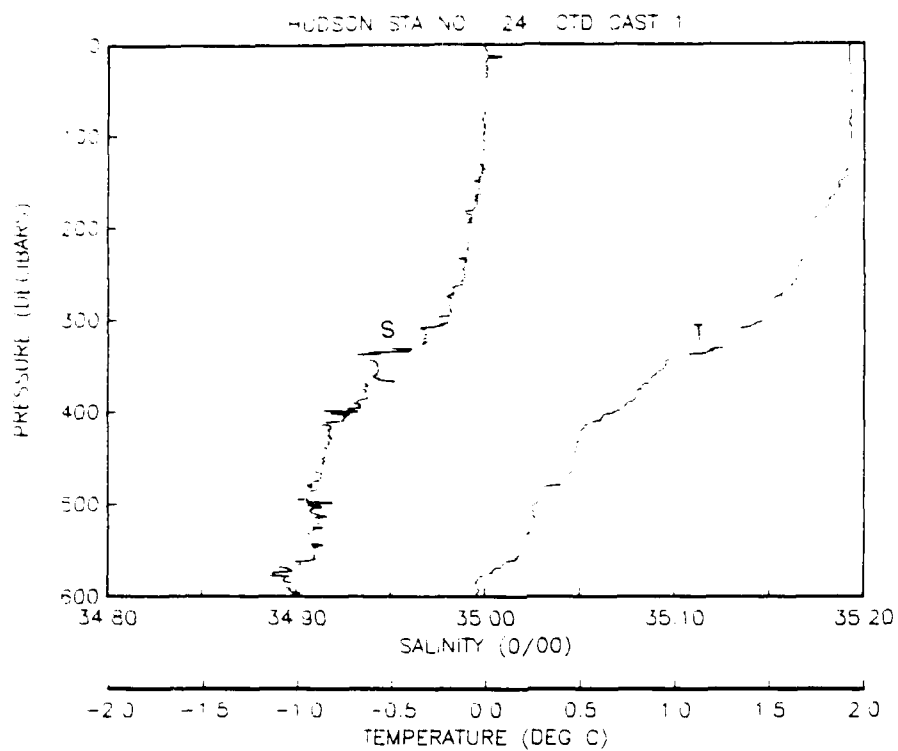


HUDSON STA NO 23 CTD CAST 2

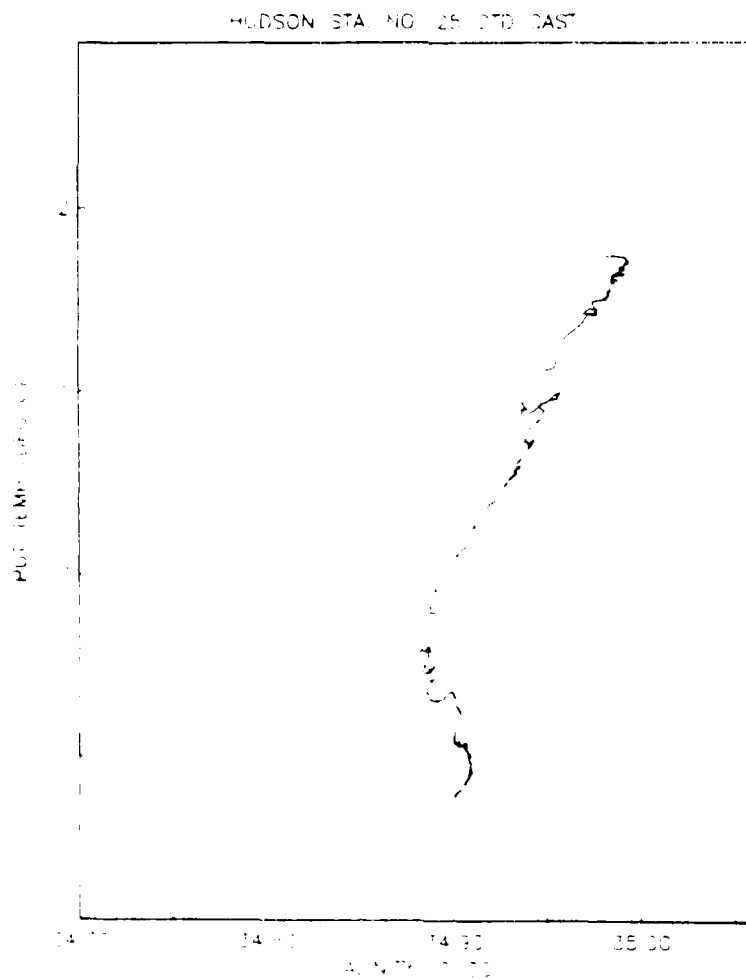
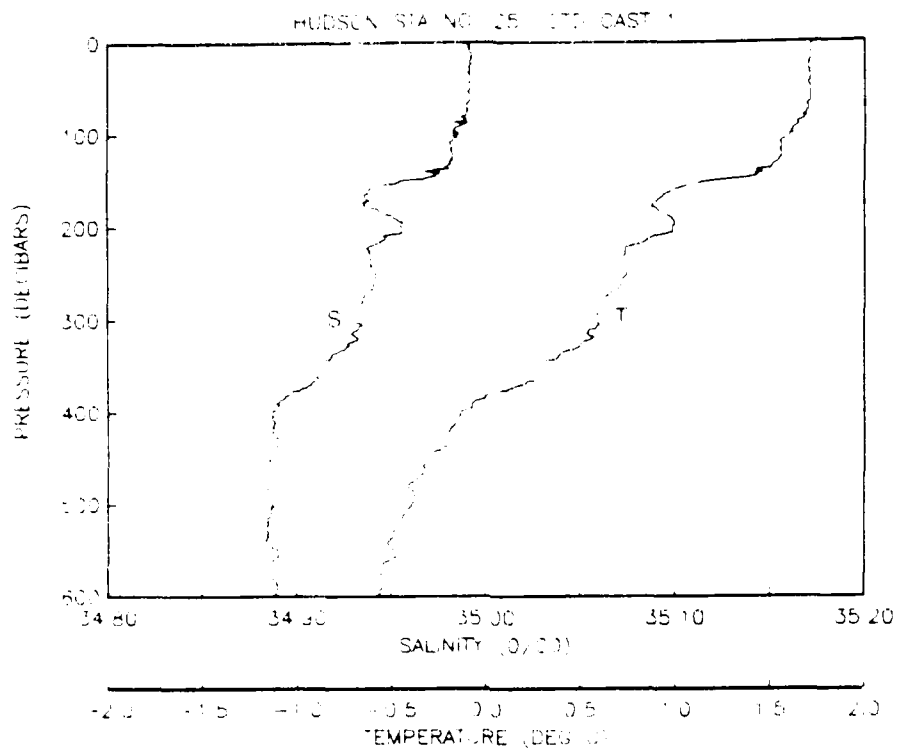


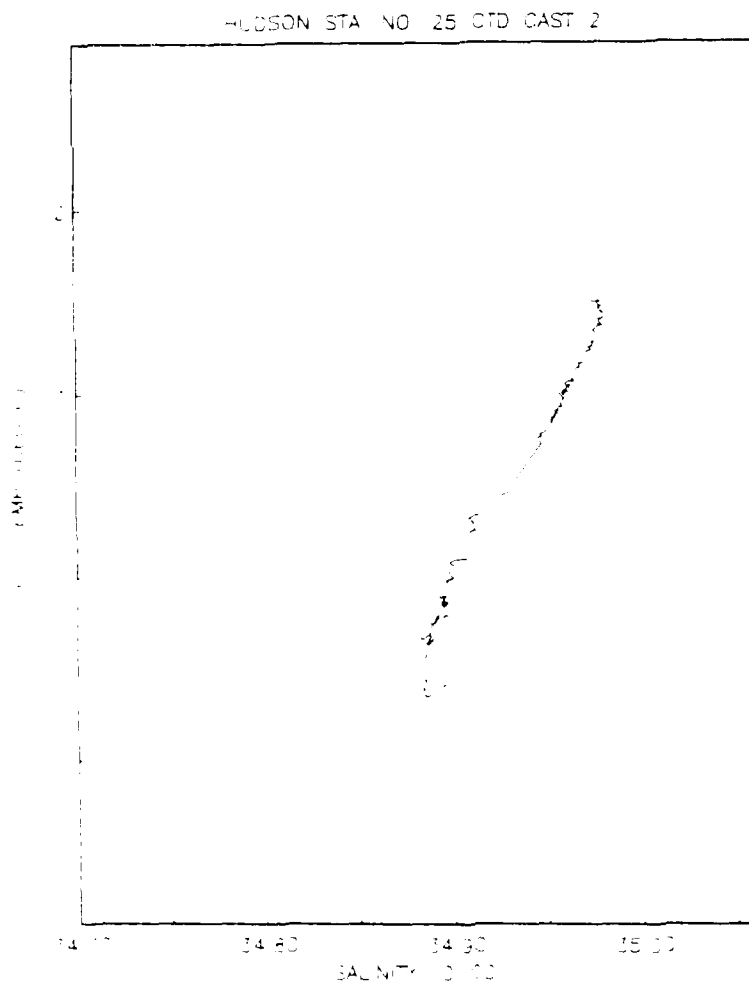
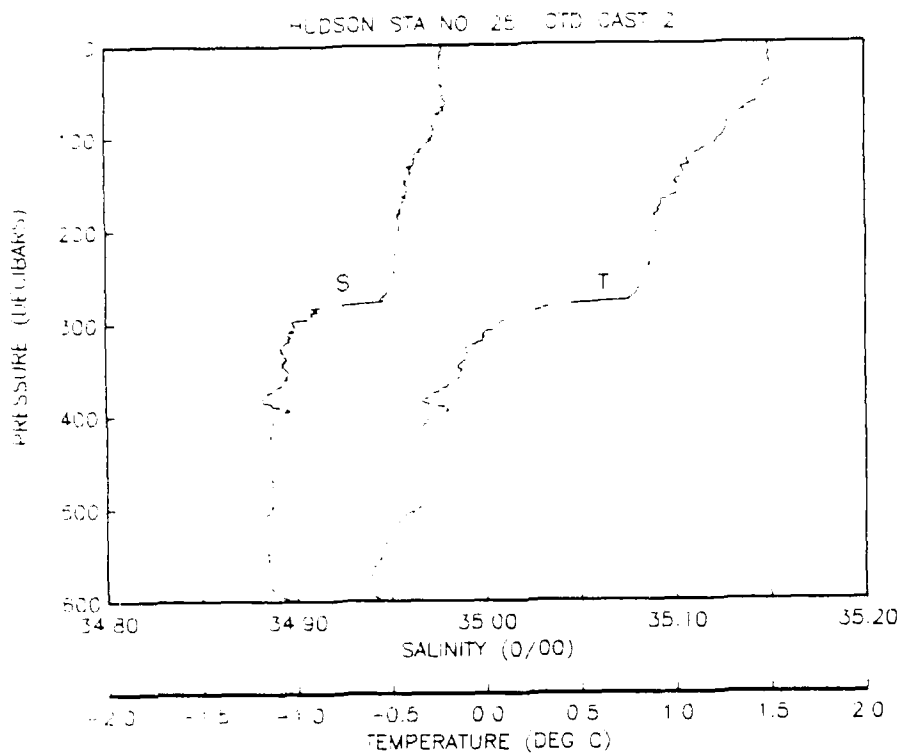
HUDSON STA NO 23 CTD CAST 2

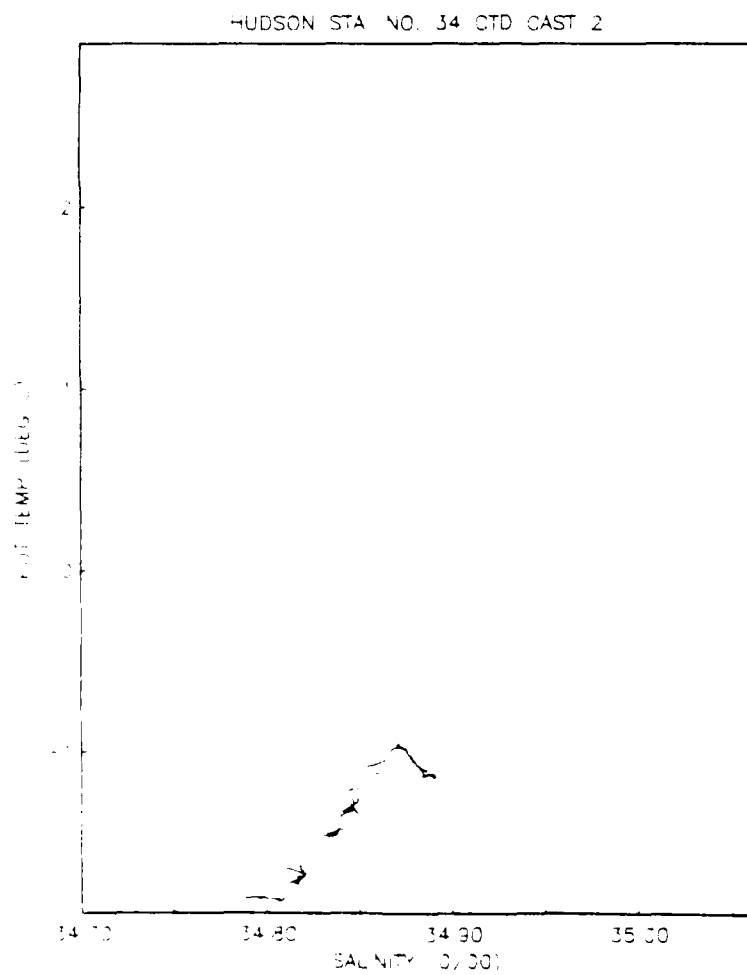
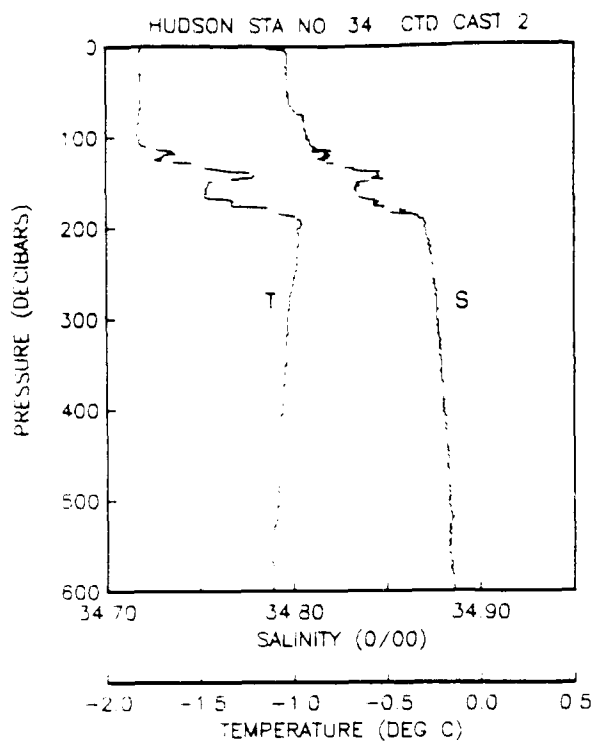


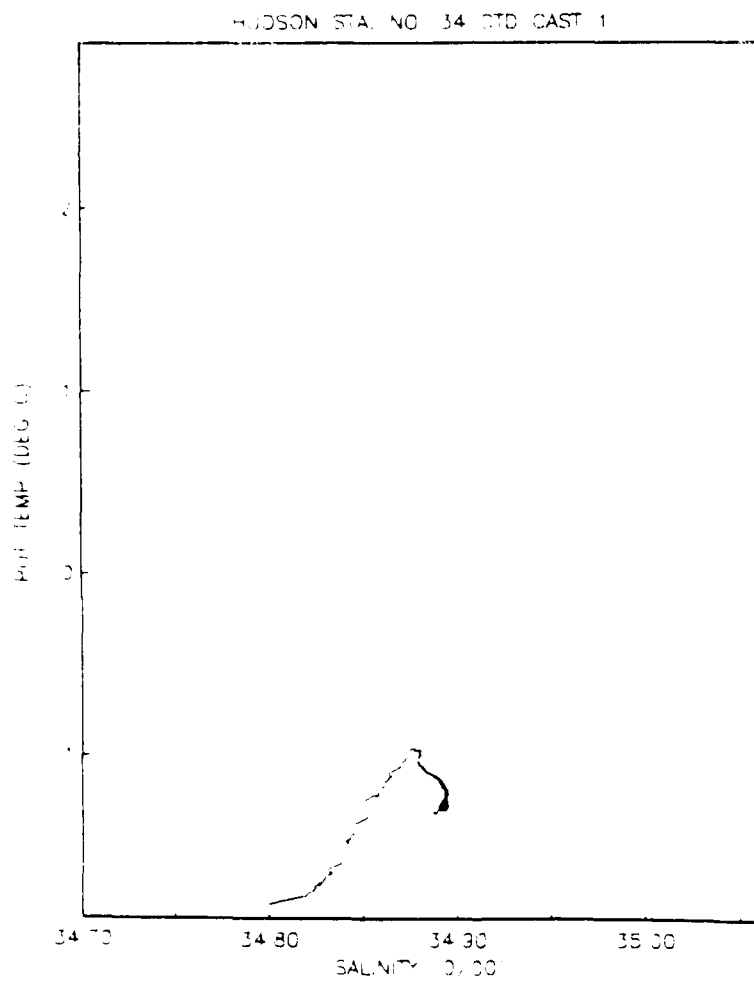
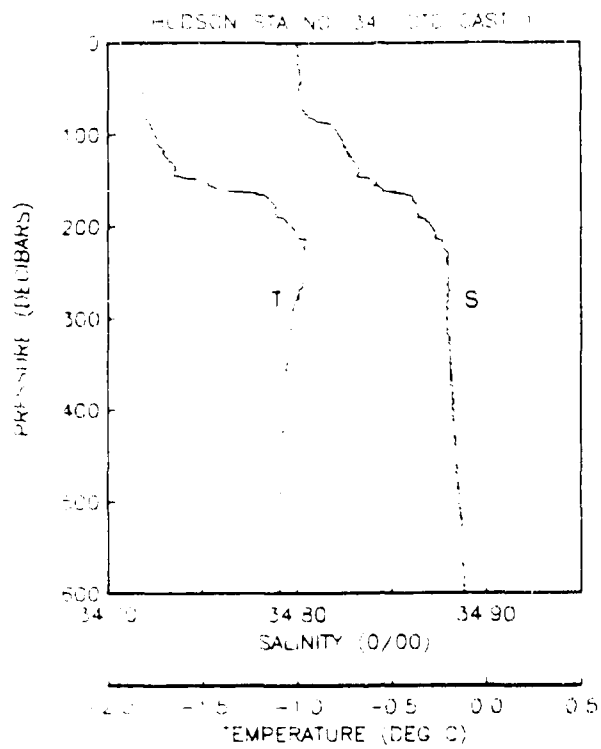


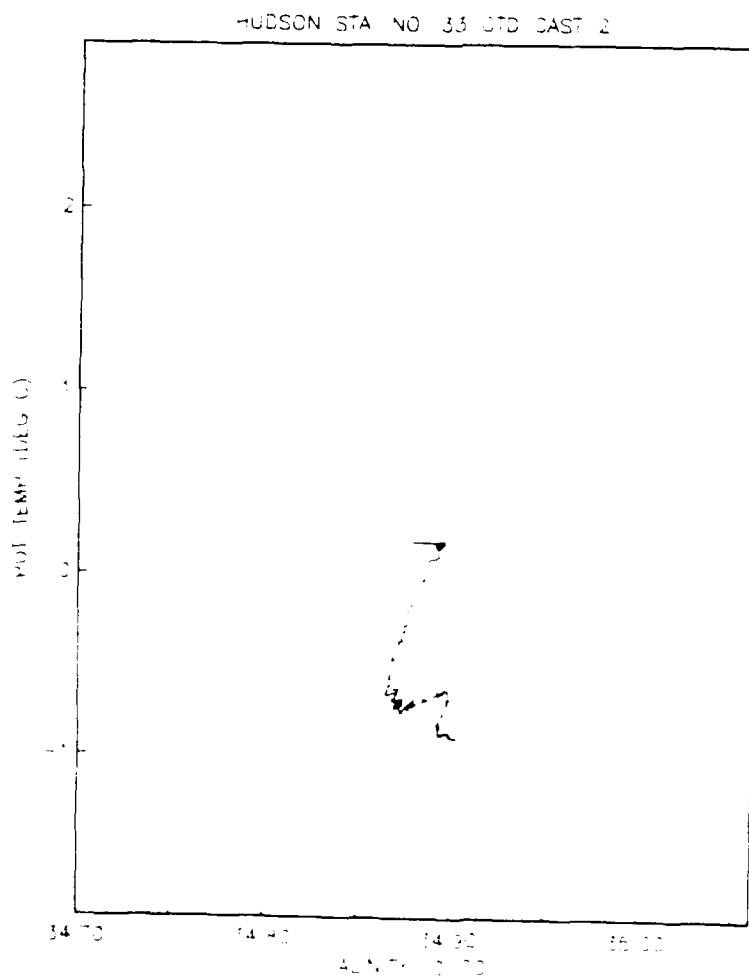
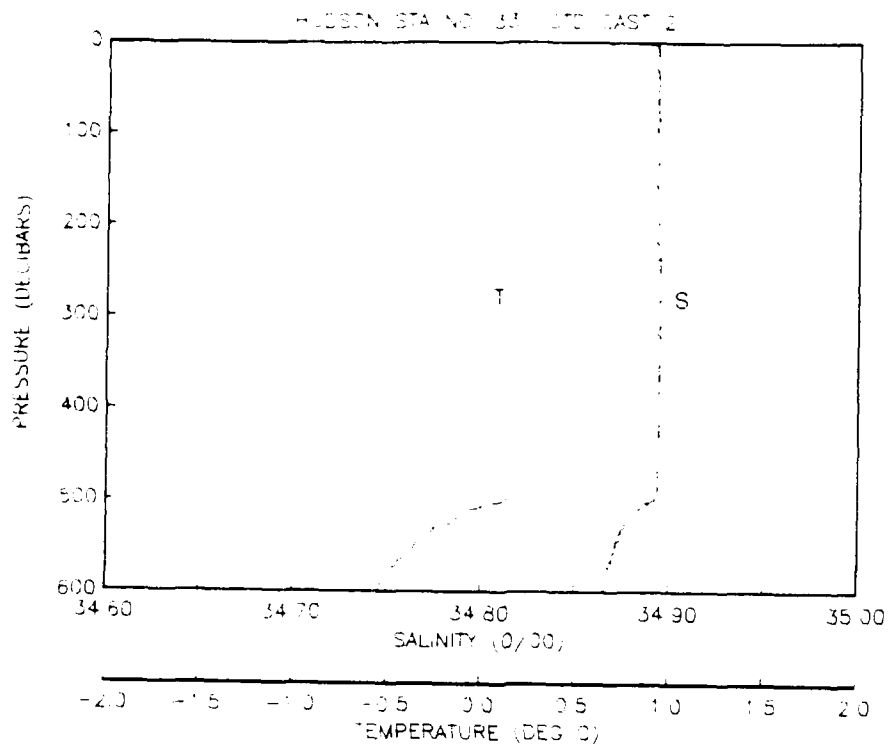


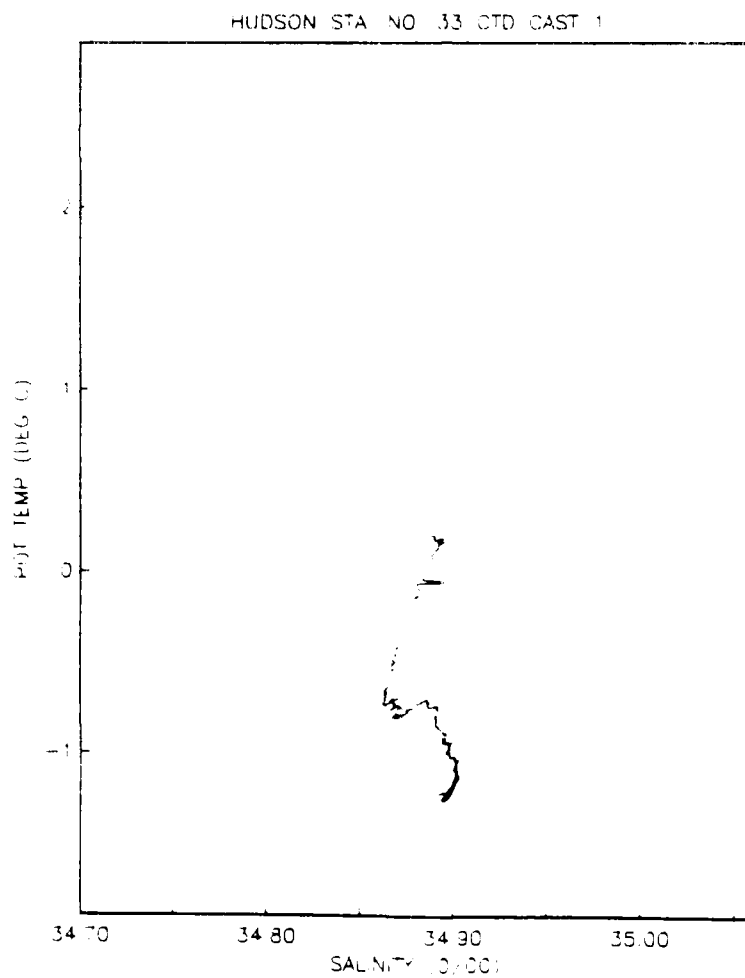
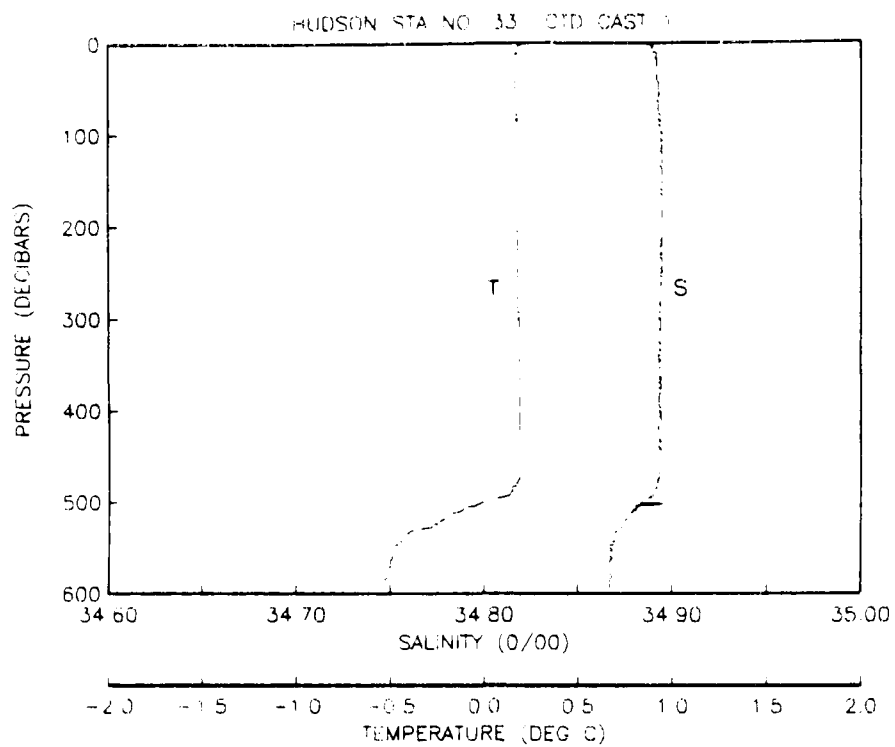


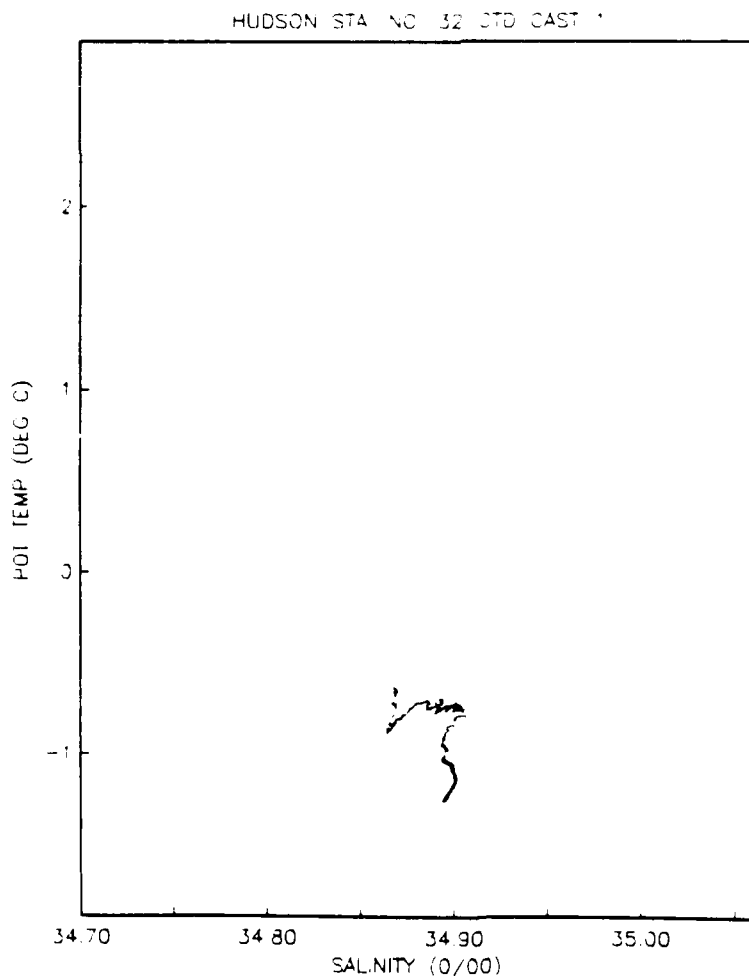
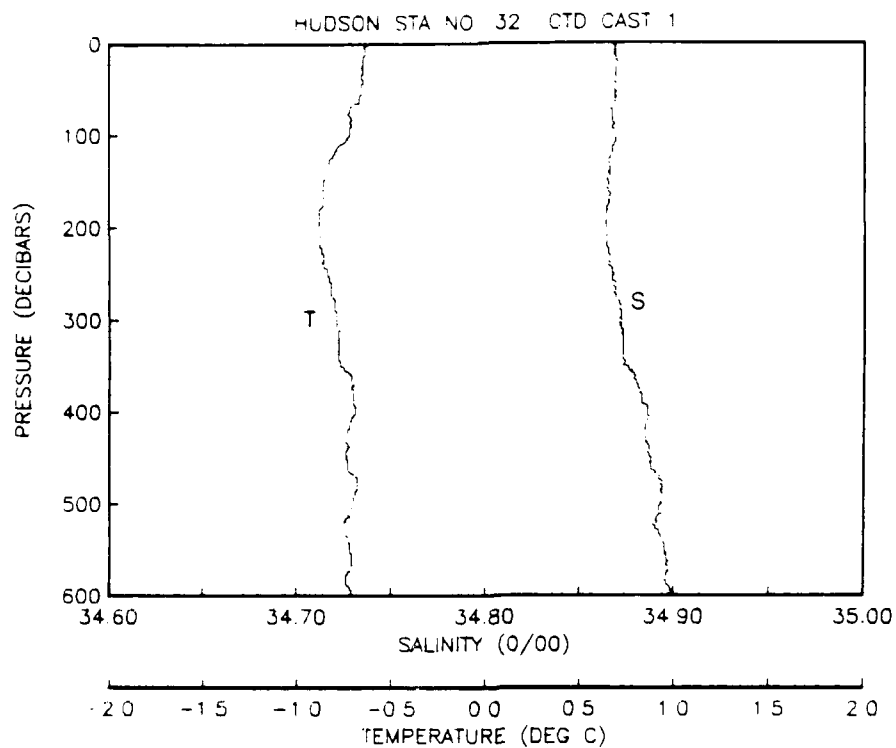




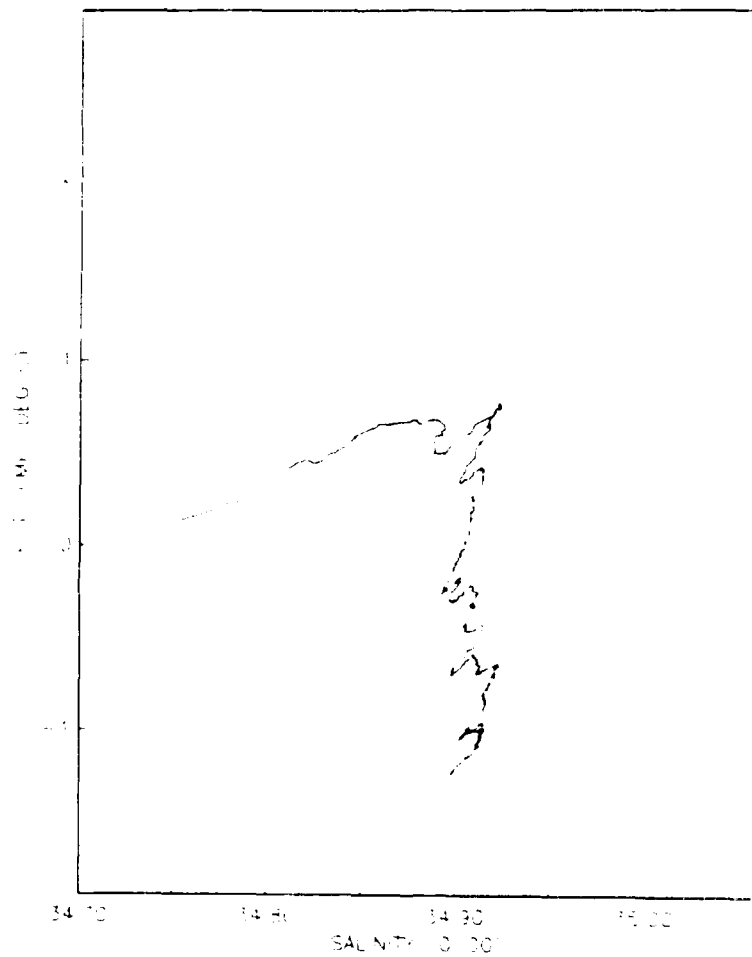




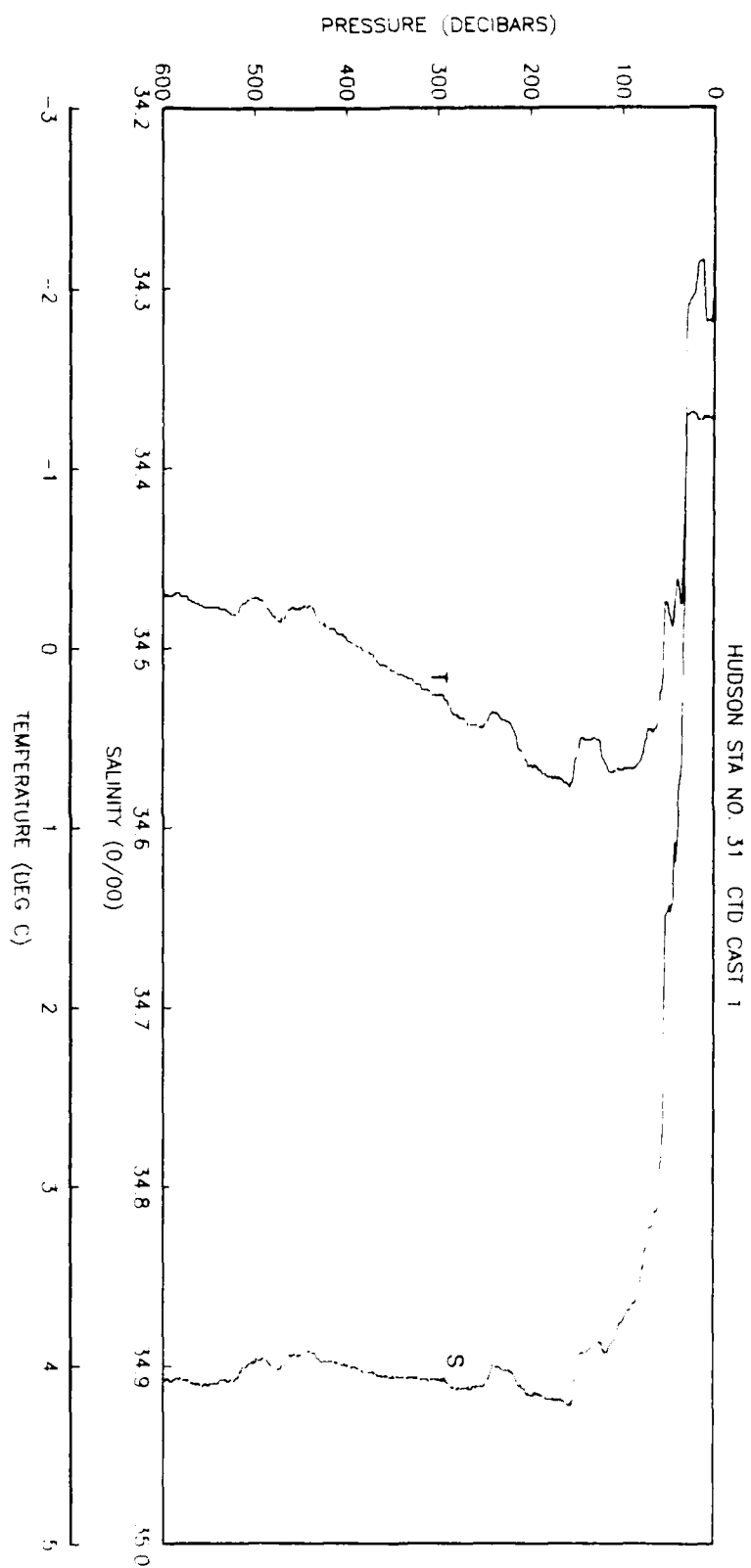


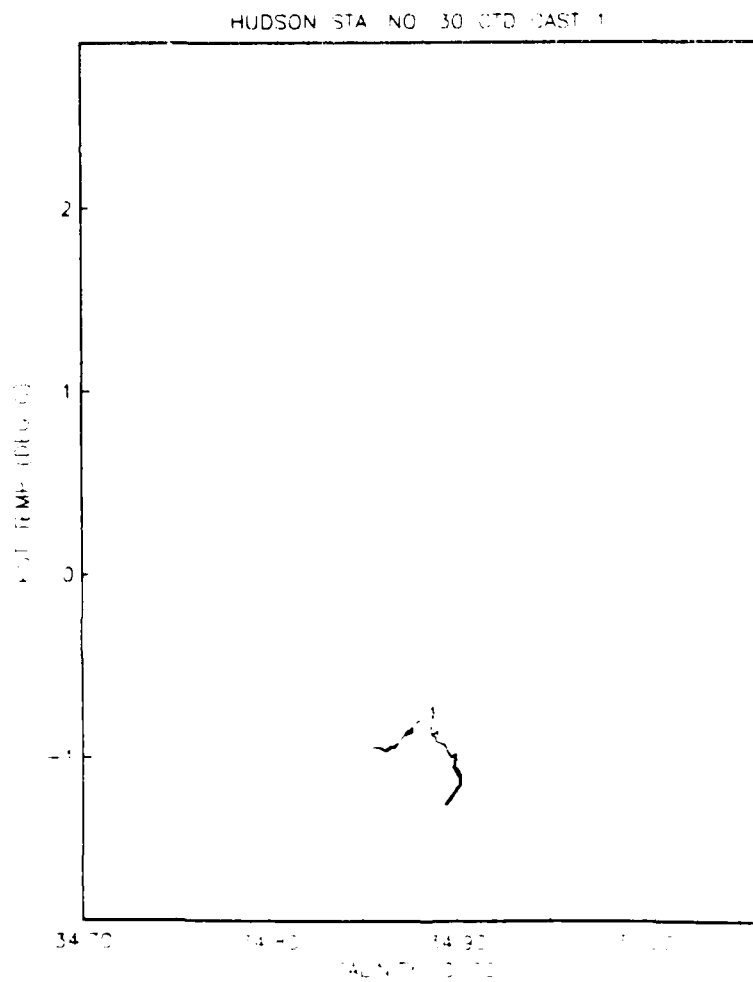
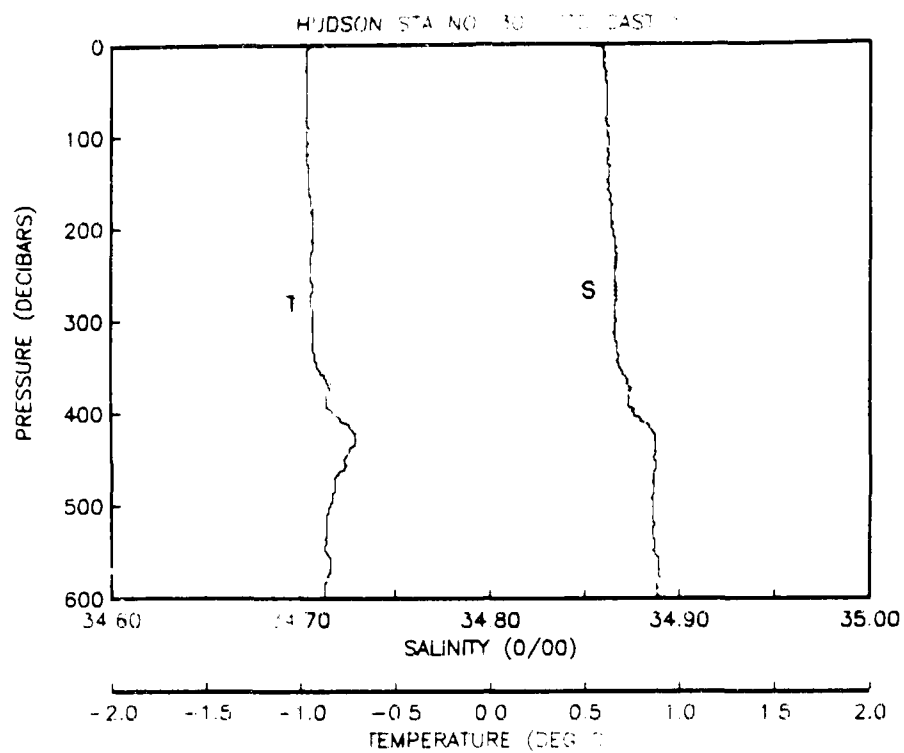


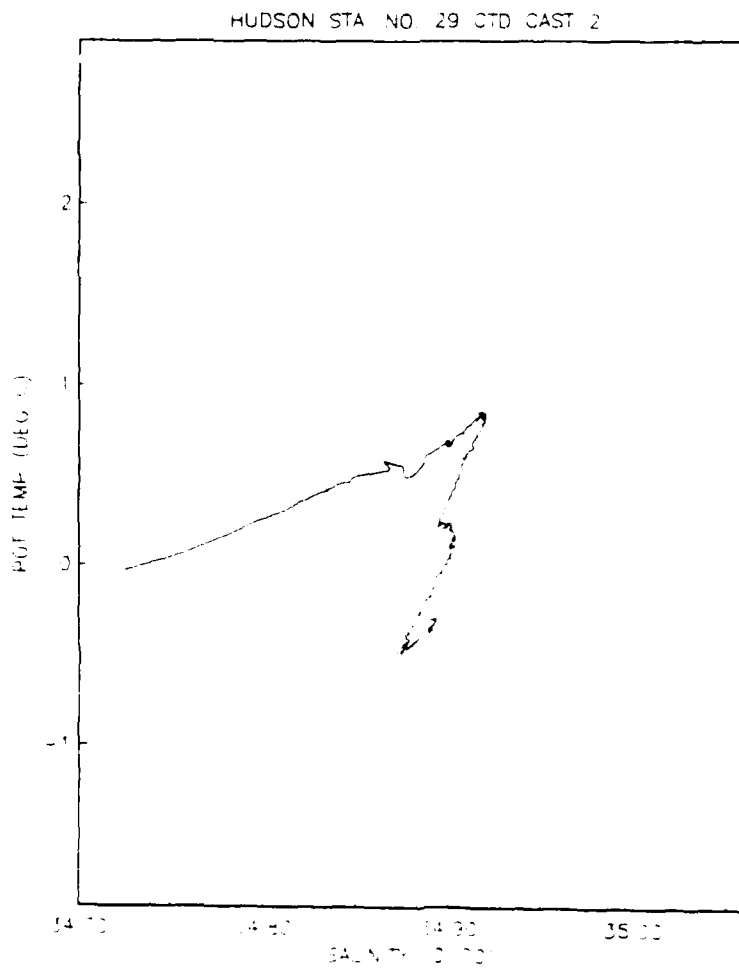
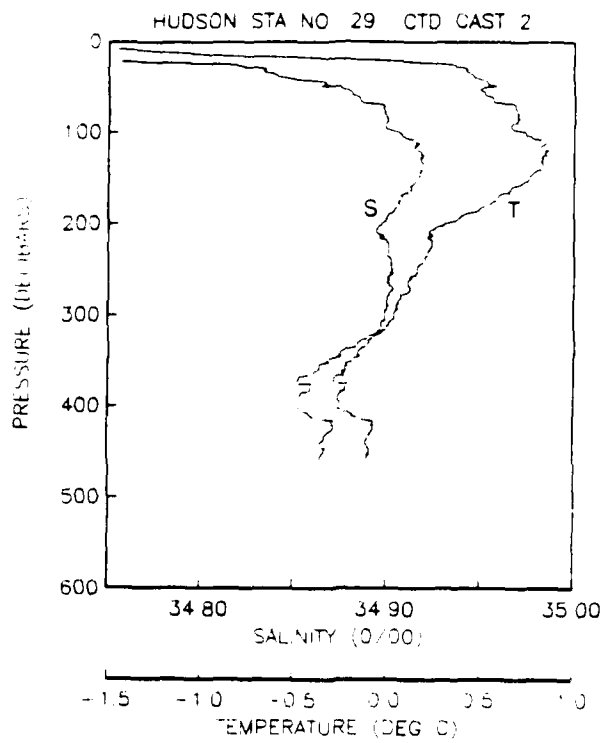
HUDSON STA. NO. 31 STD. CAST

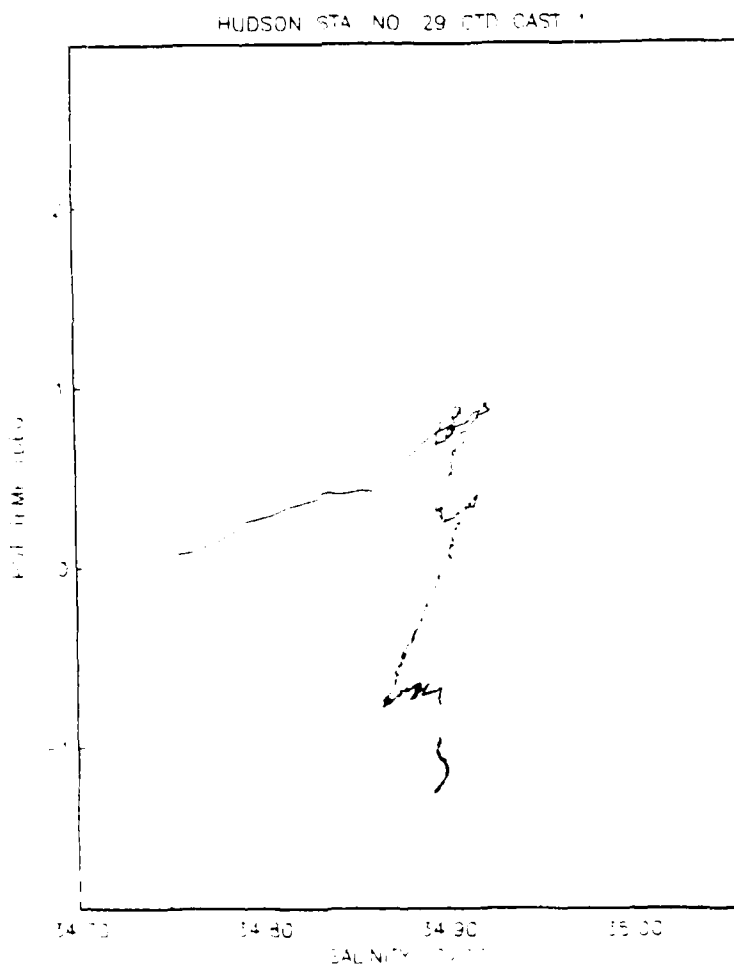
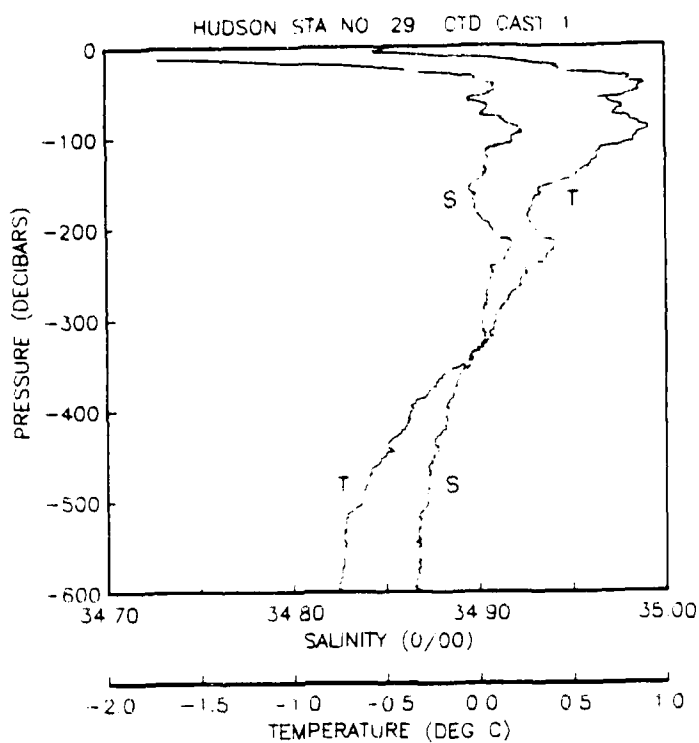


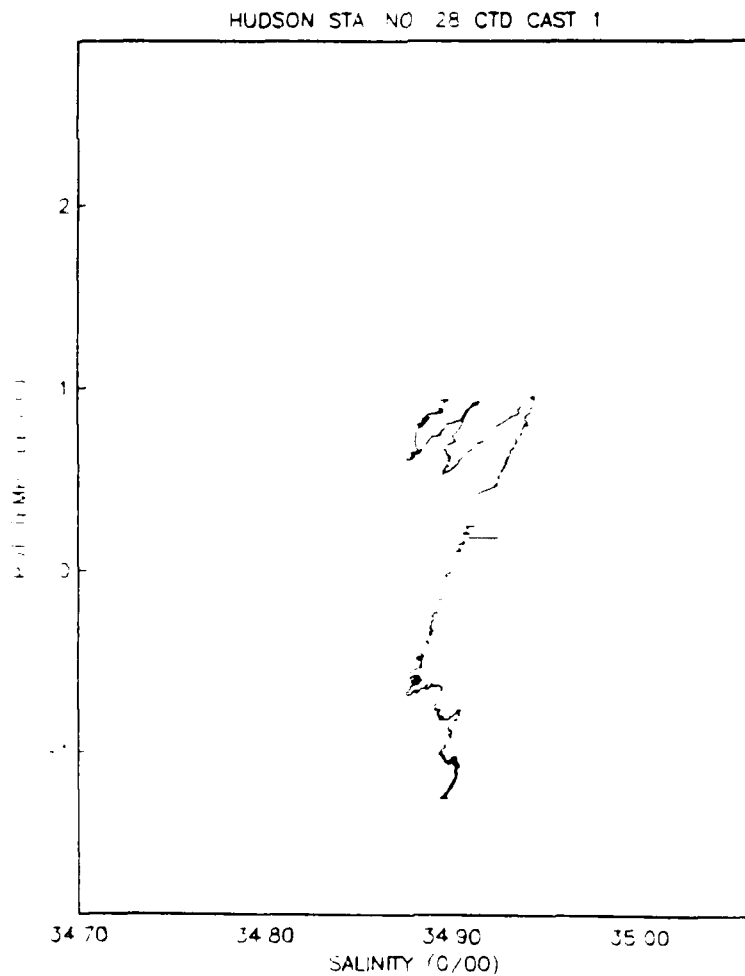
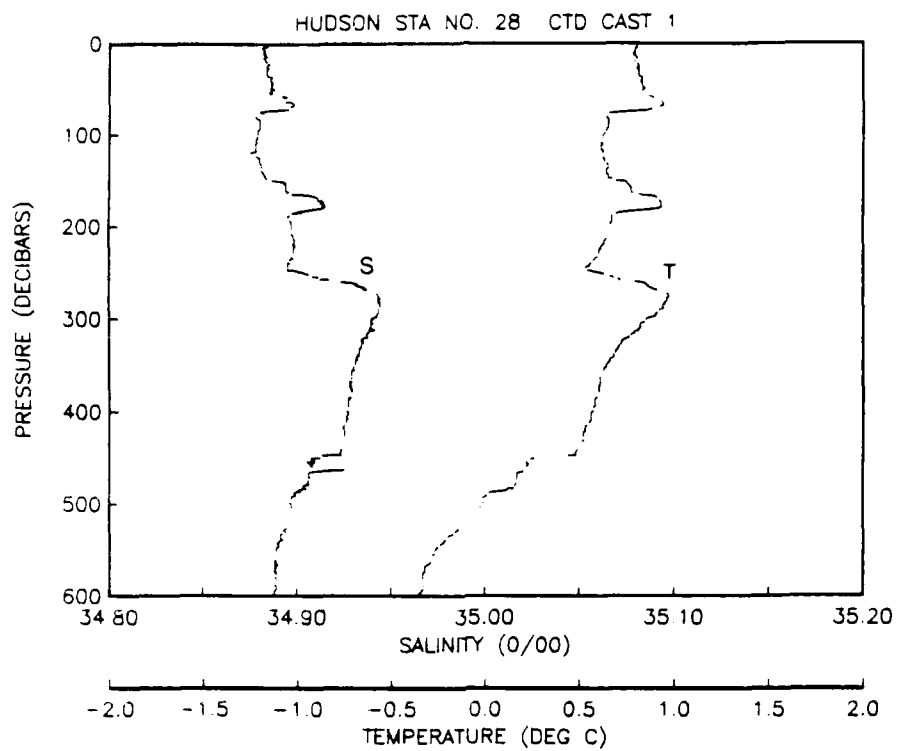


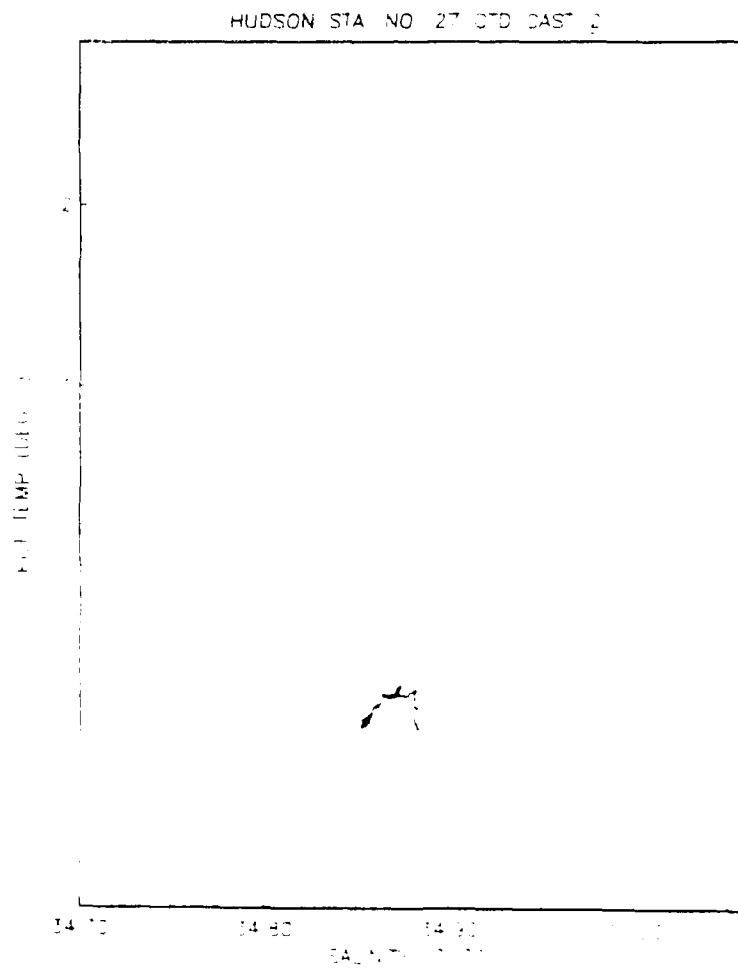
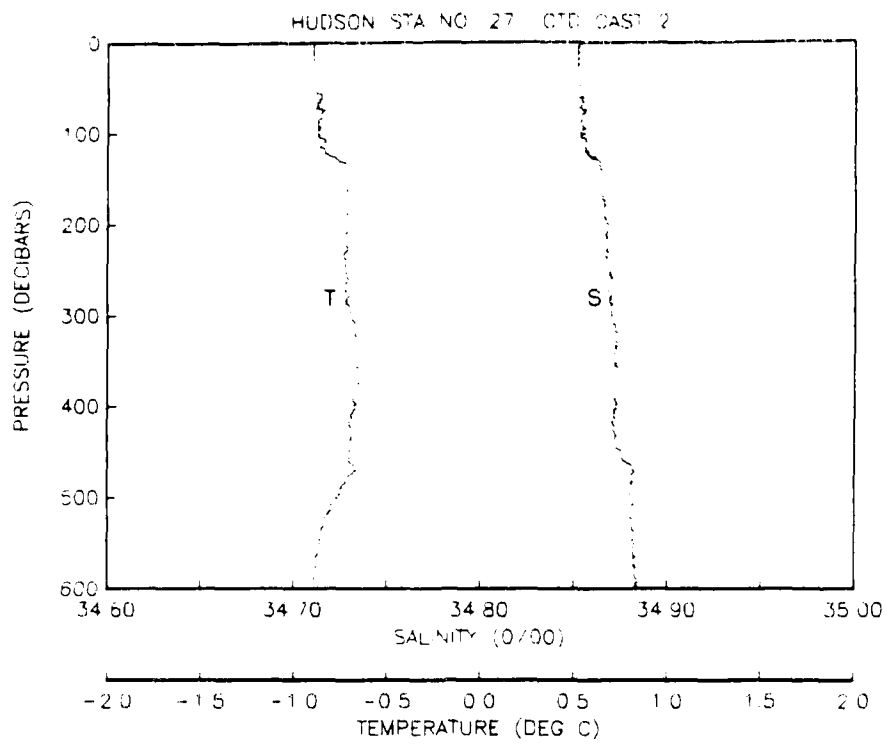


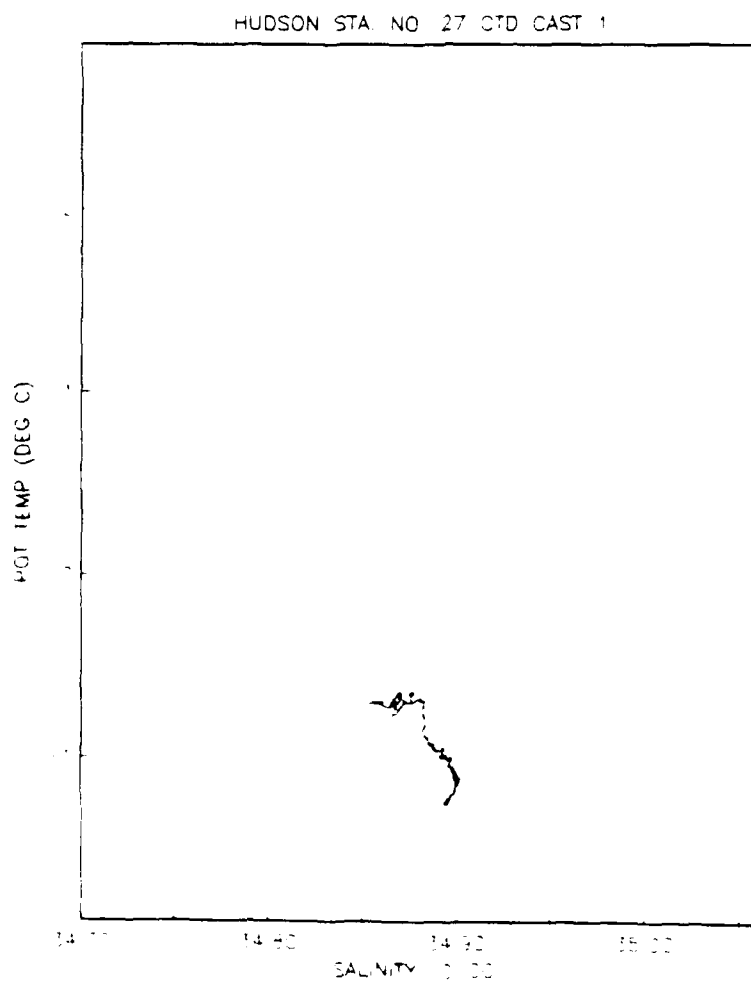
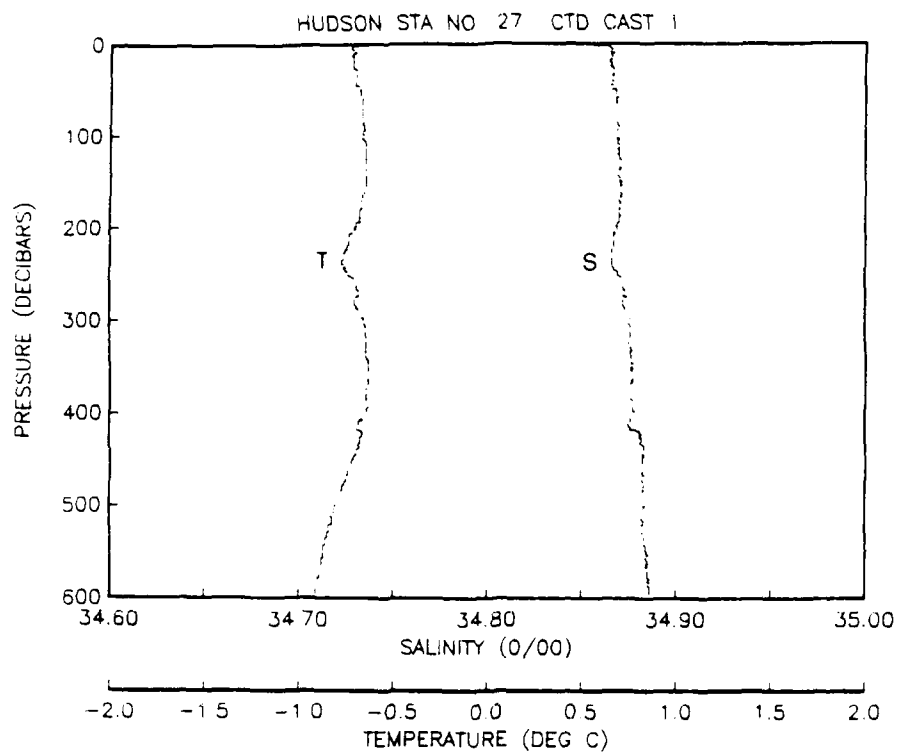


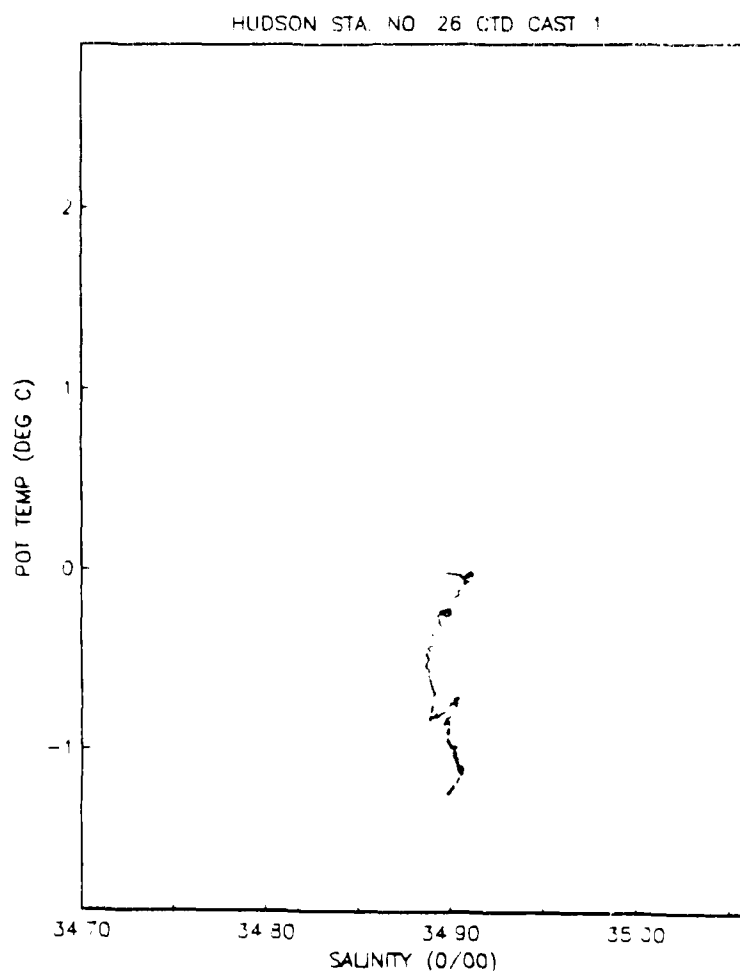
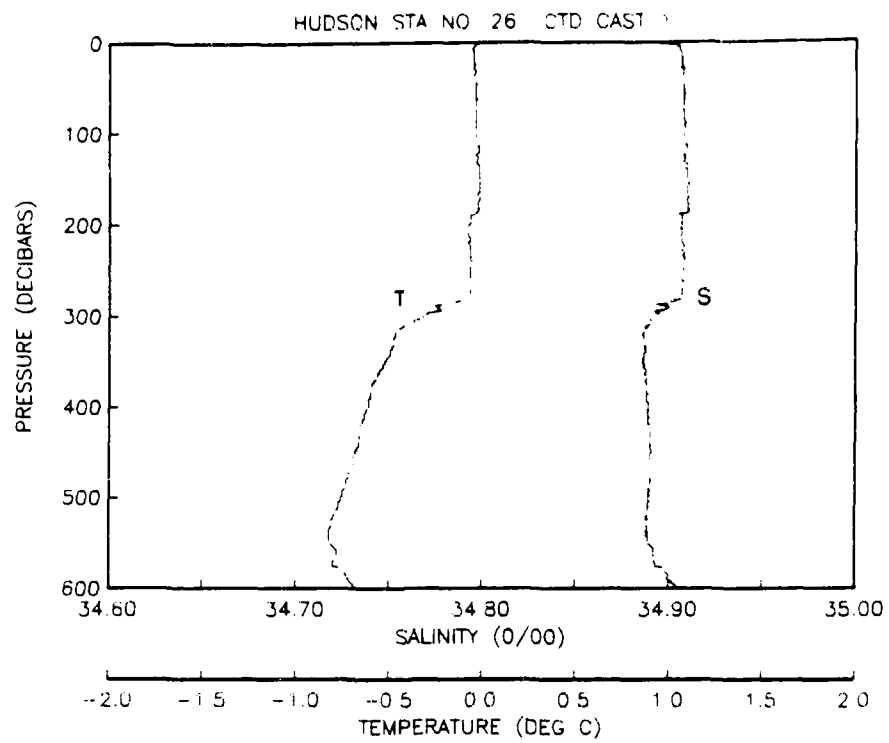




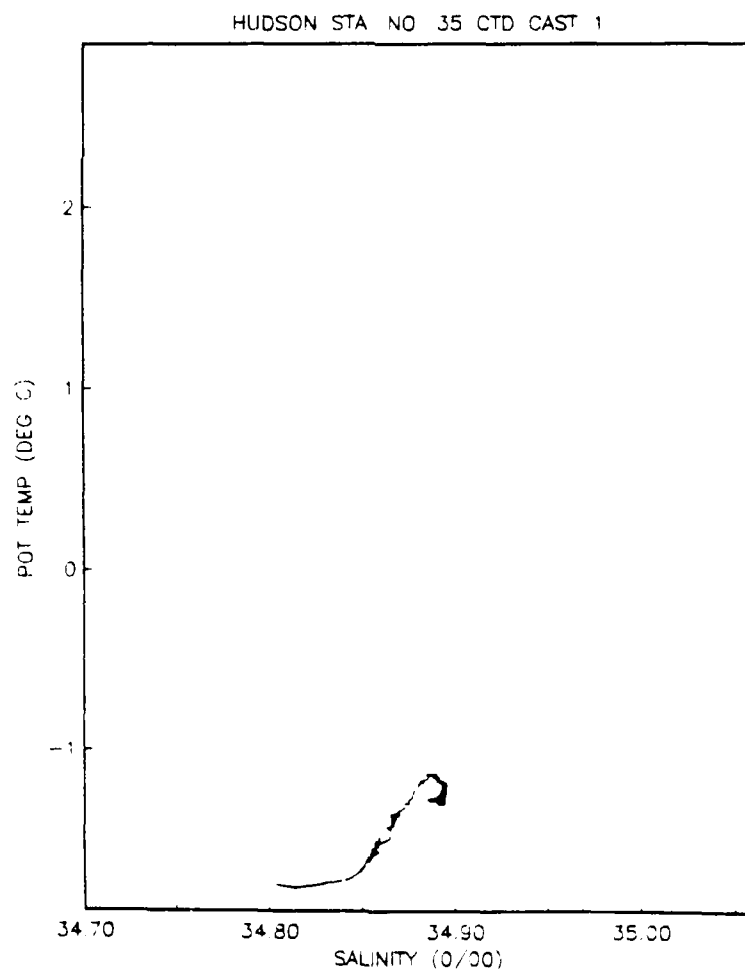
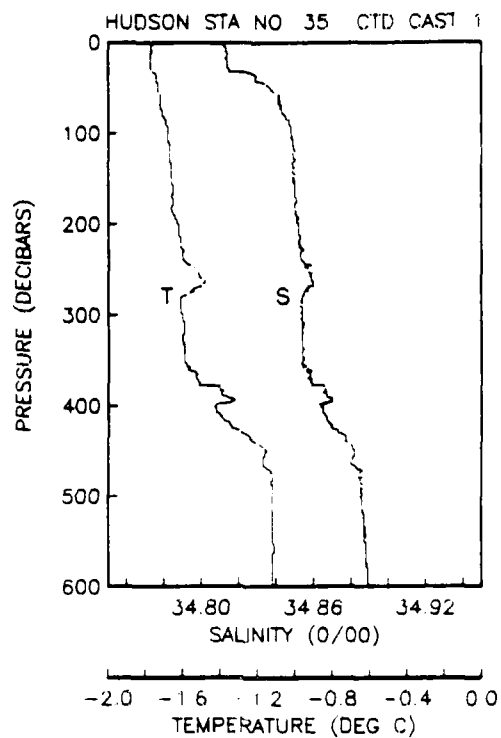


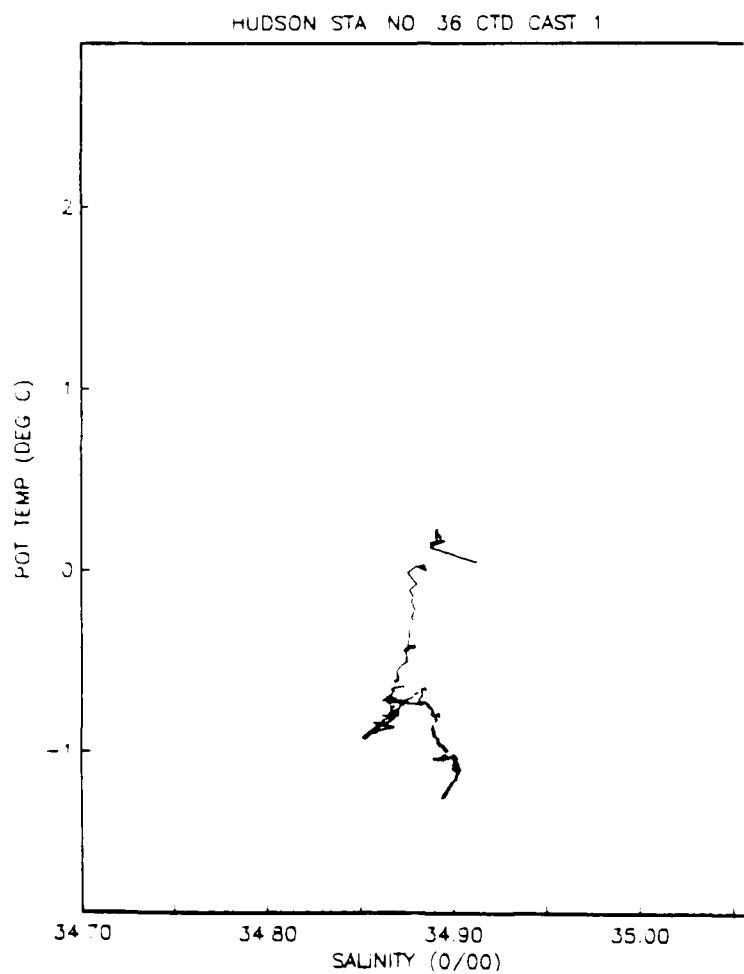
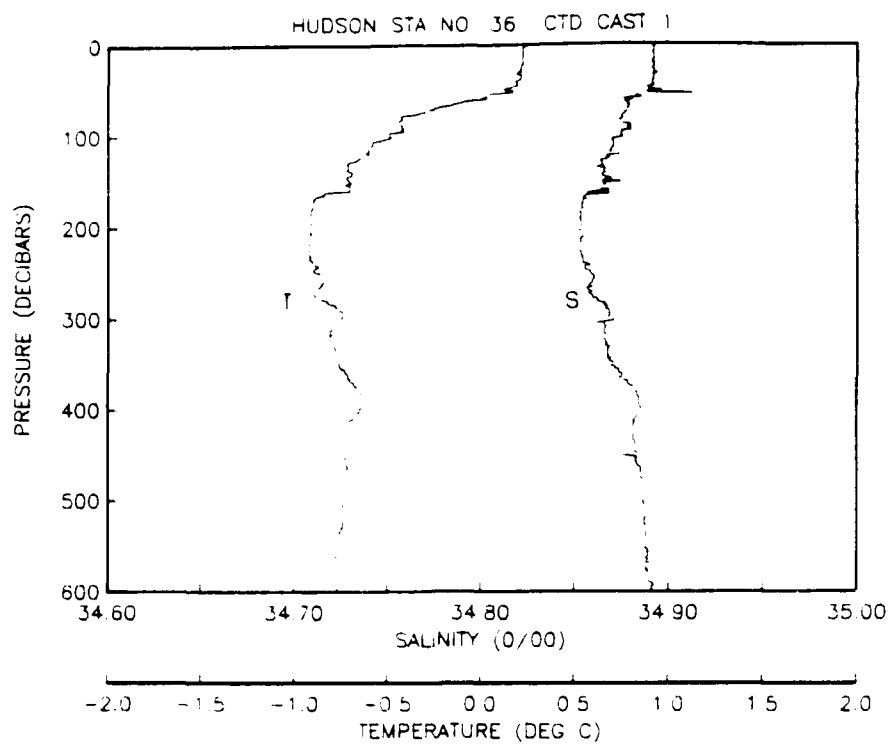


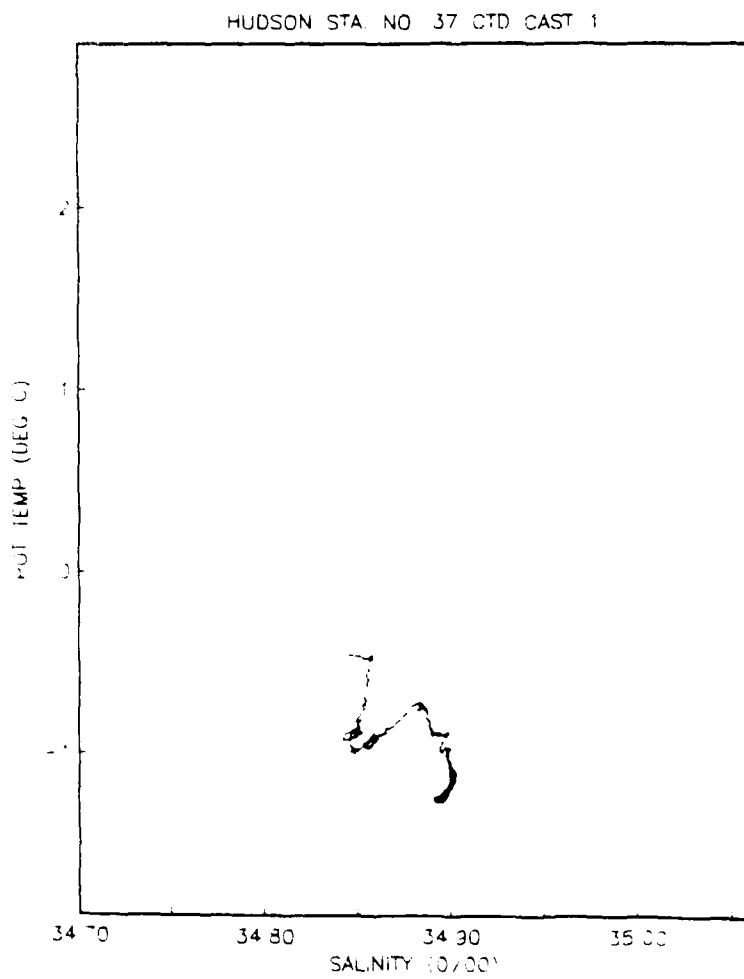
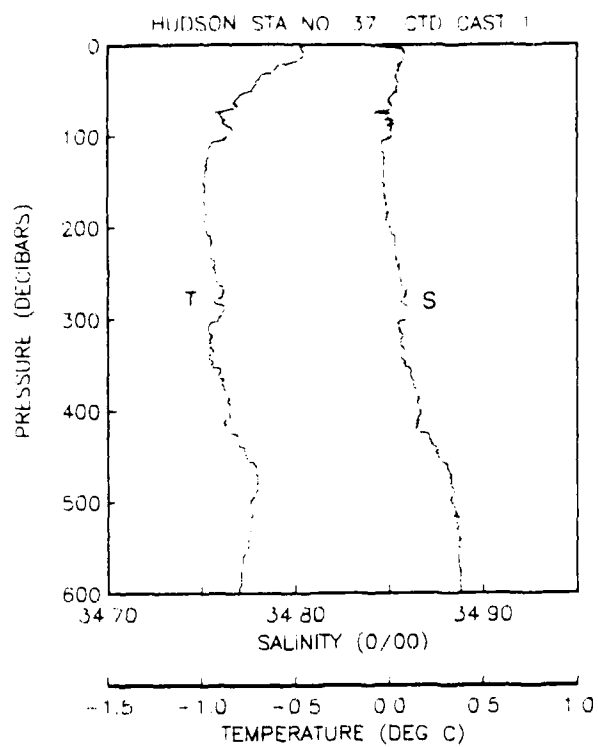


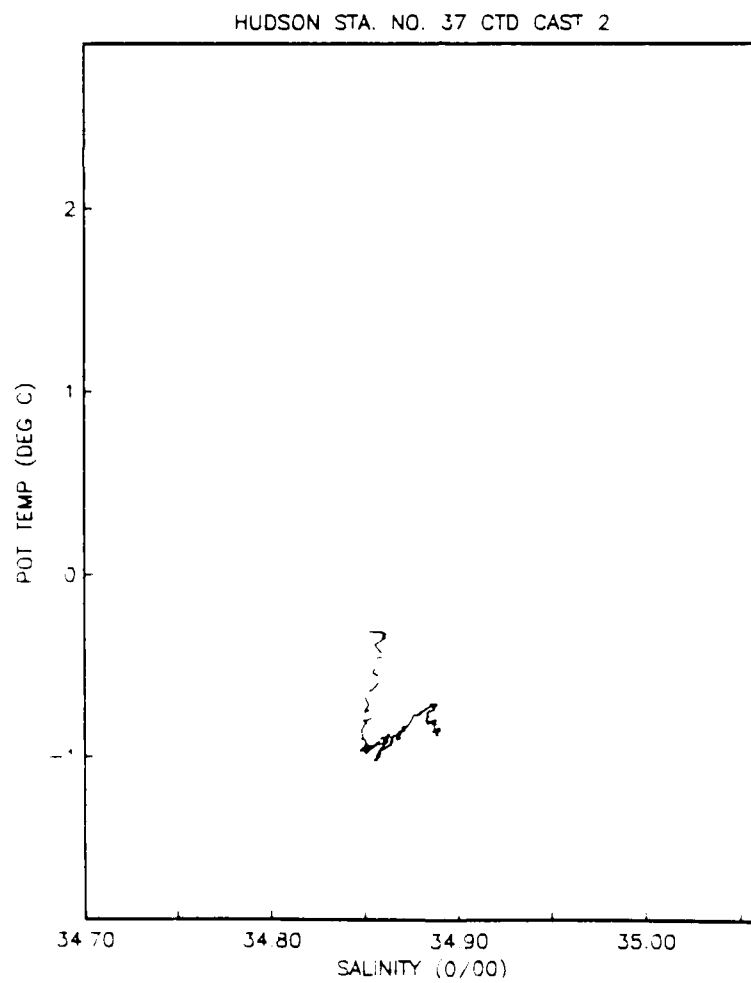
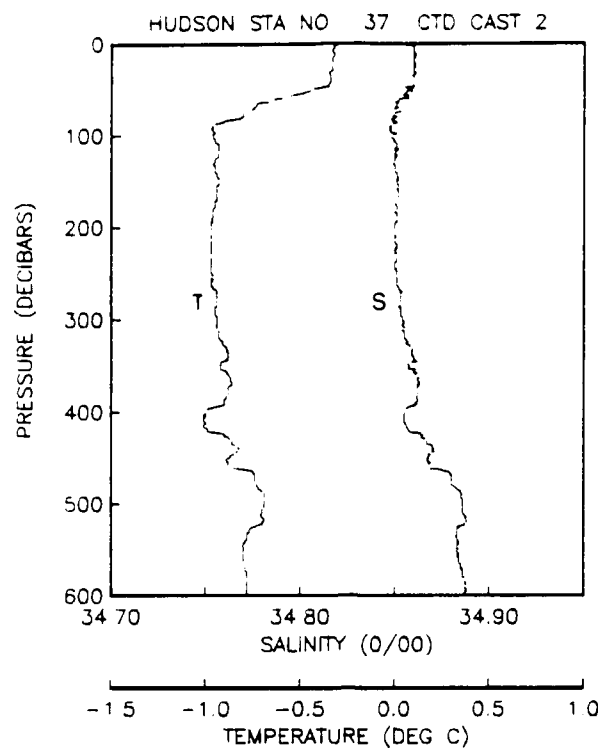


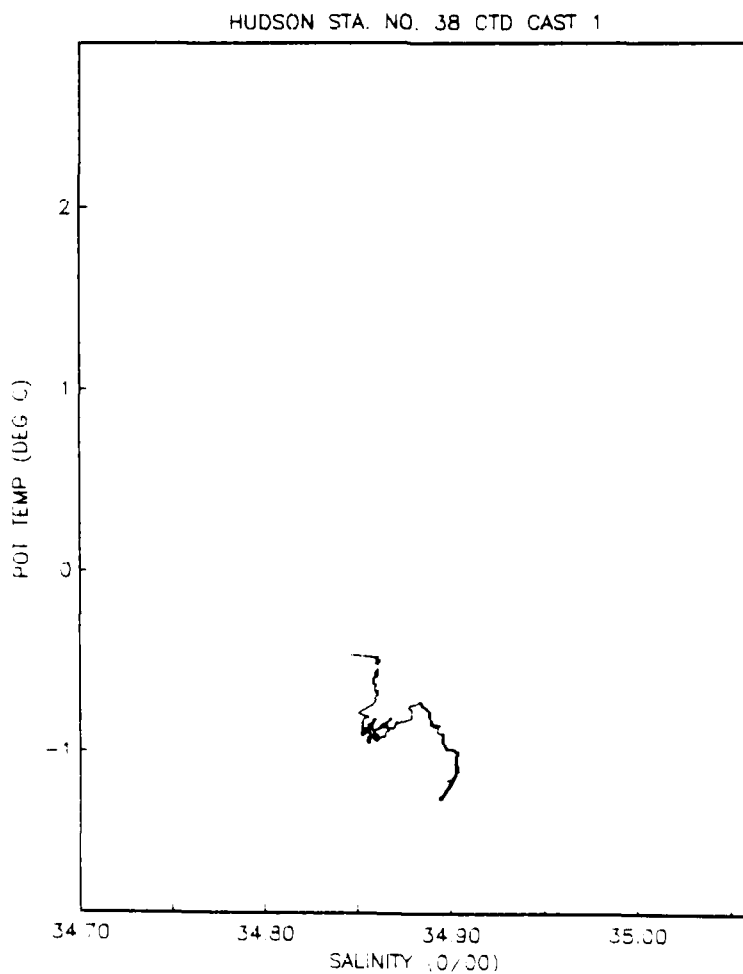
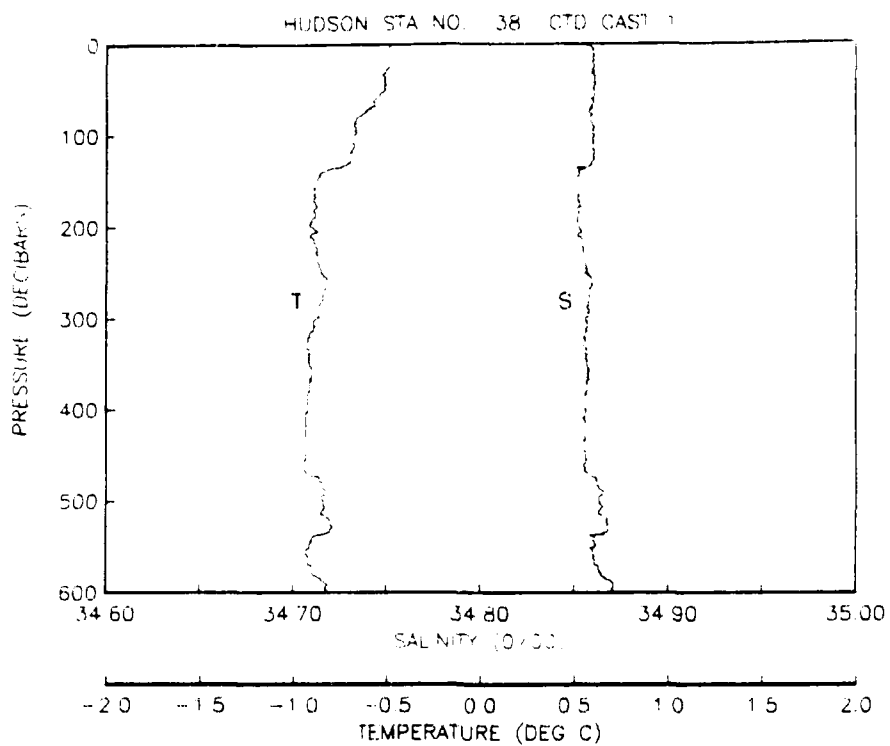


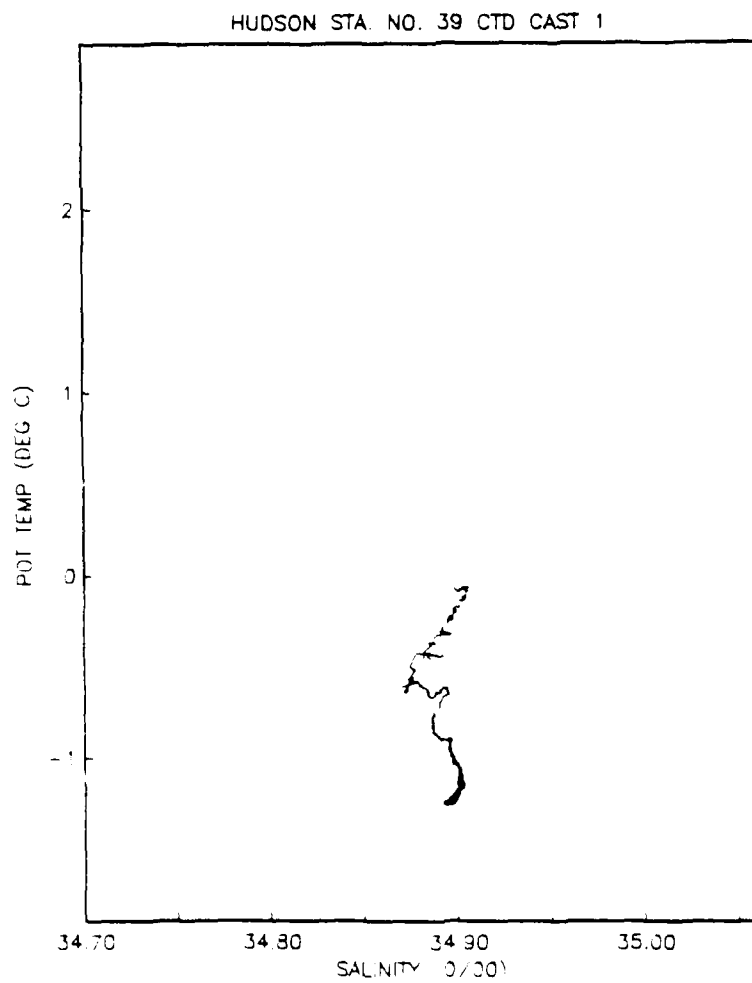
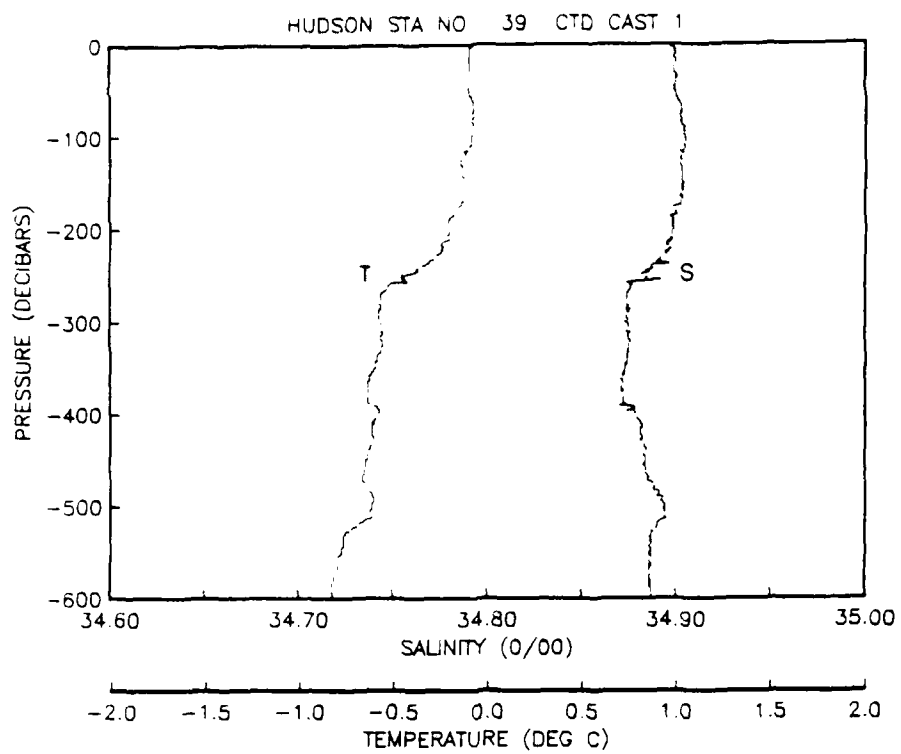


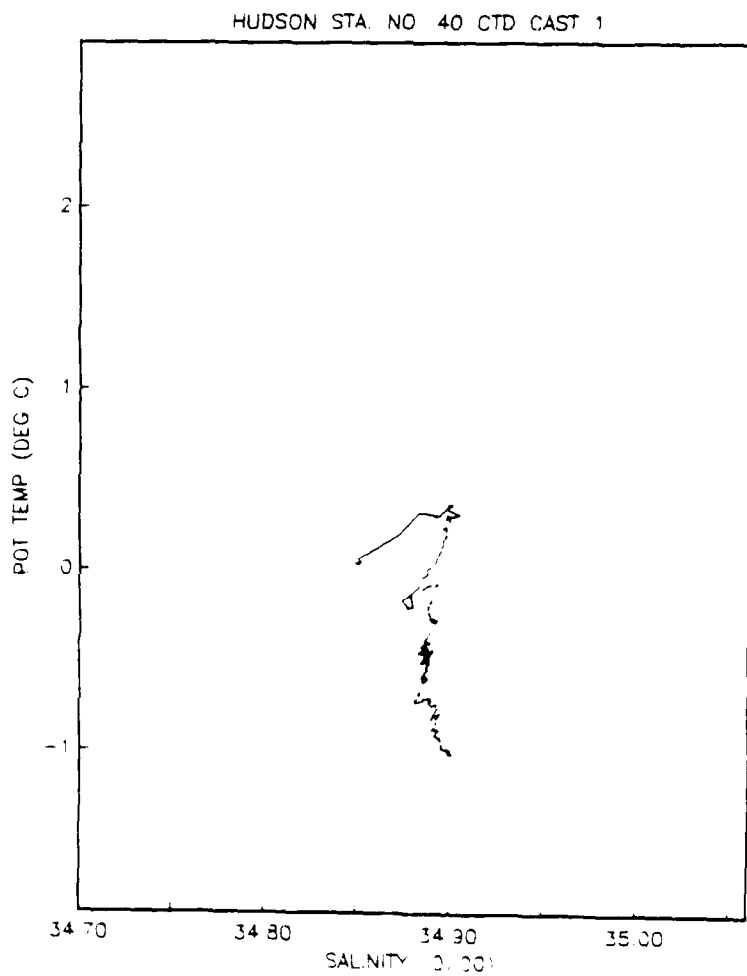
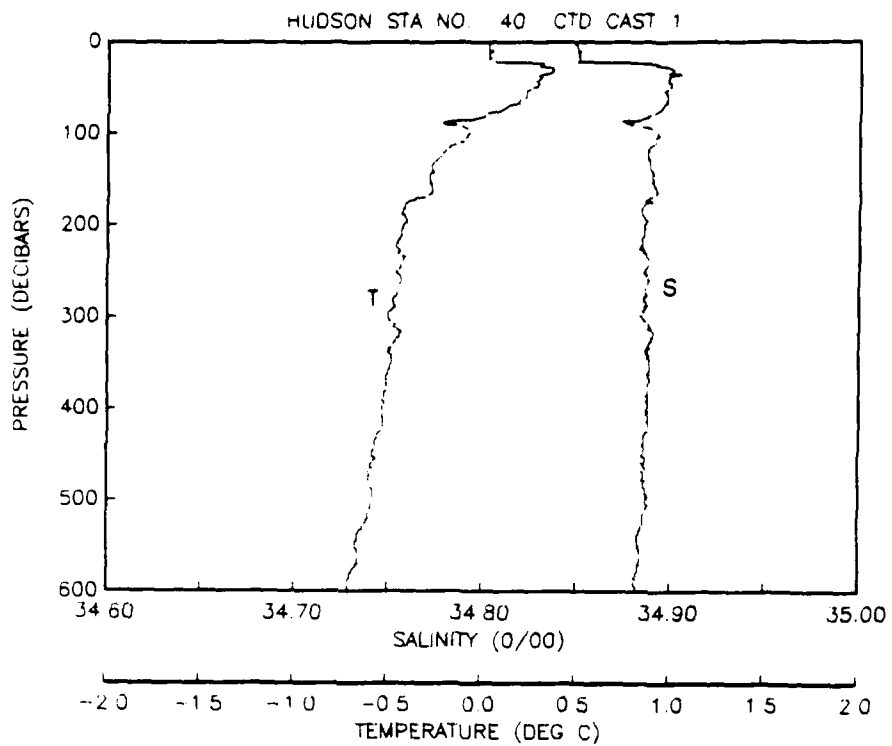


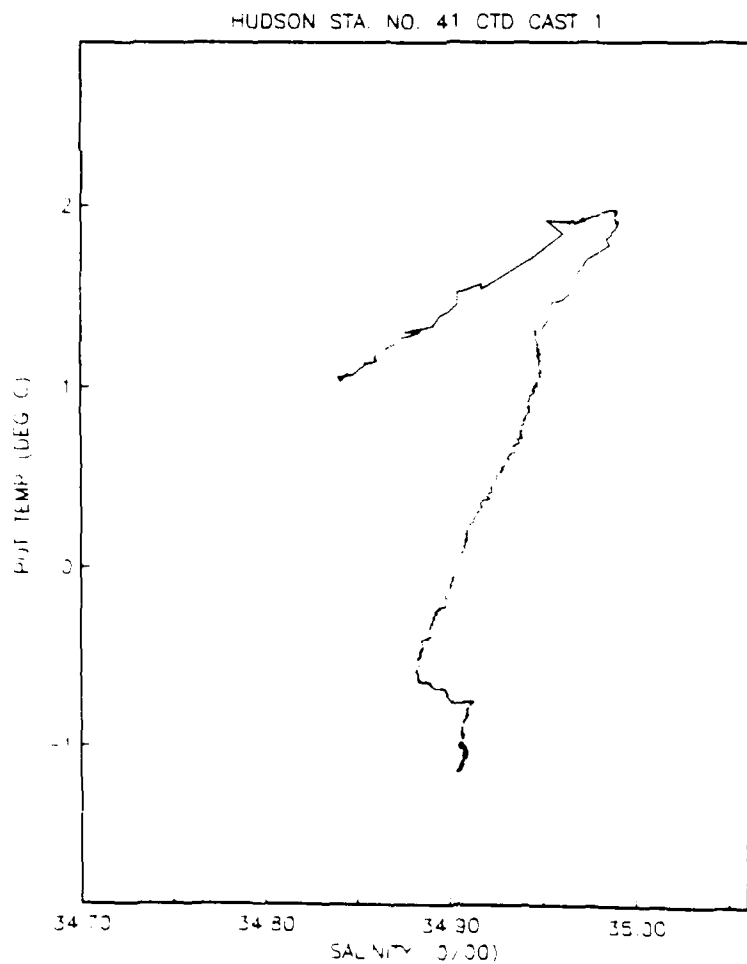
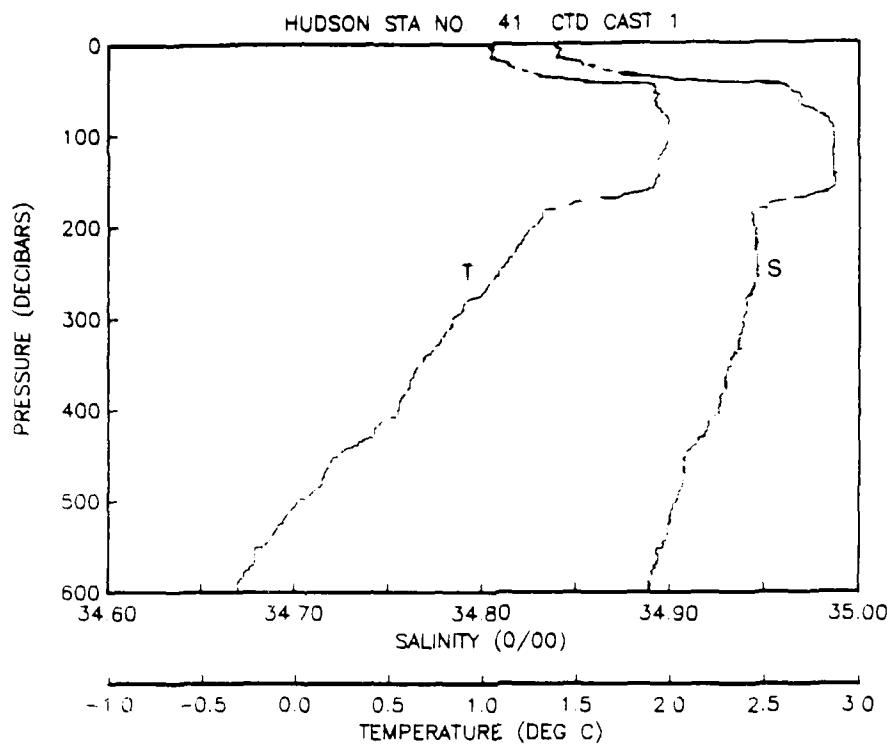




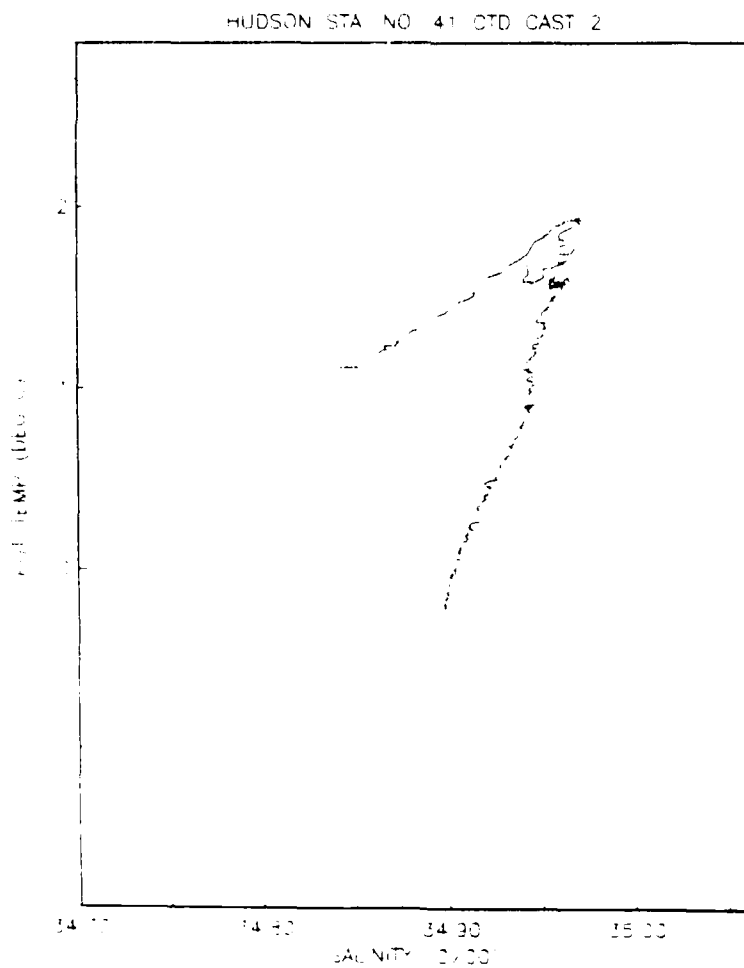
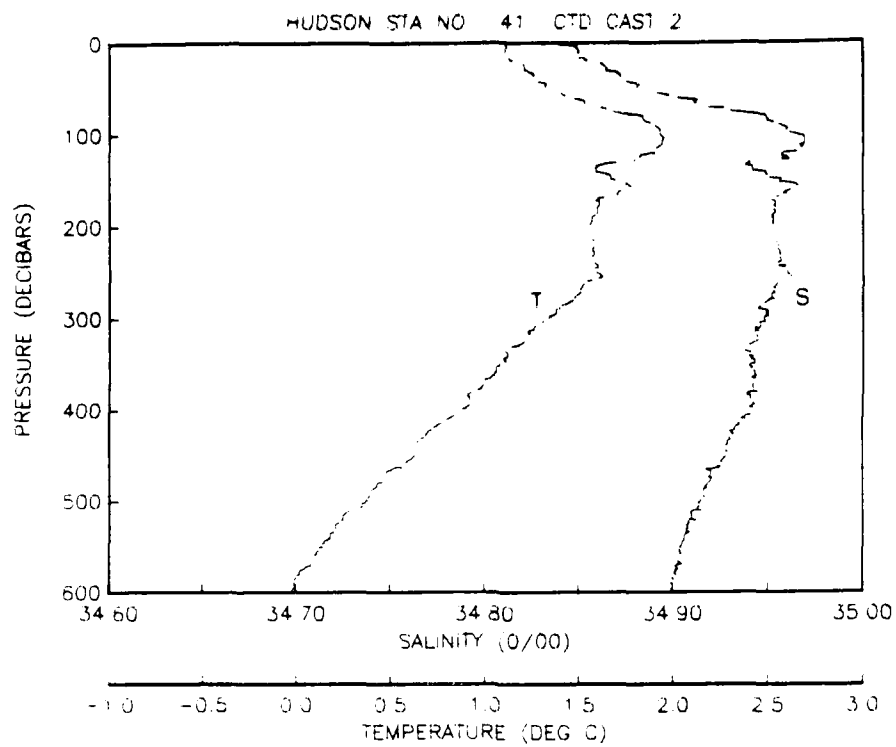




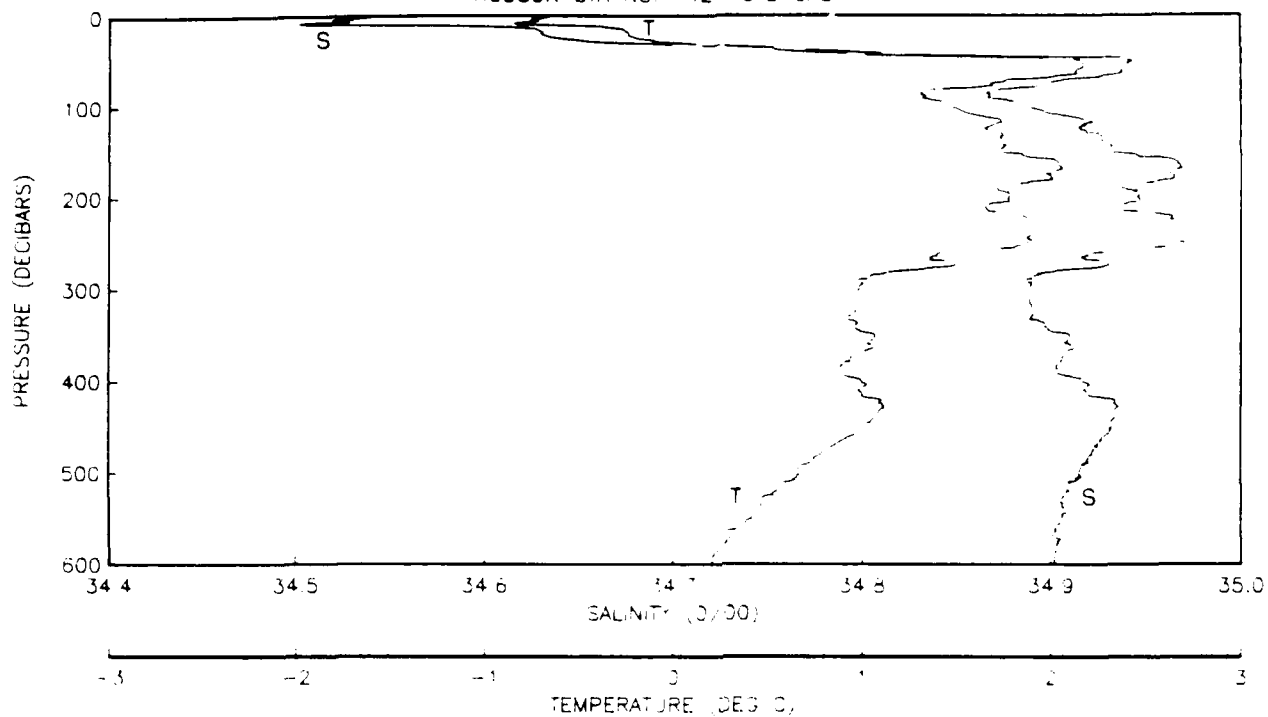




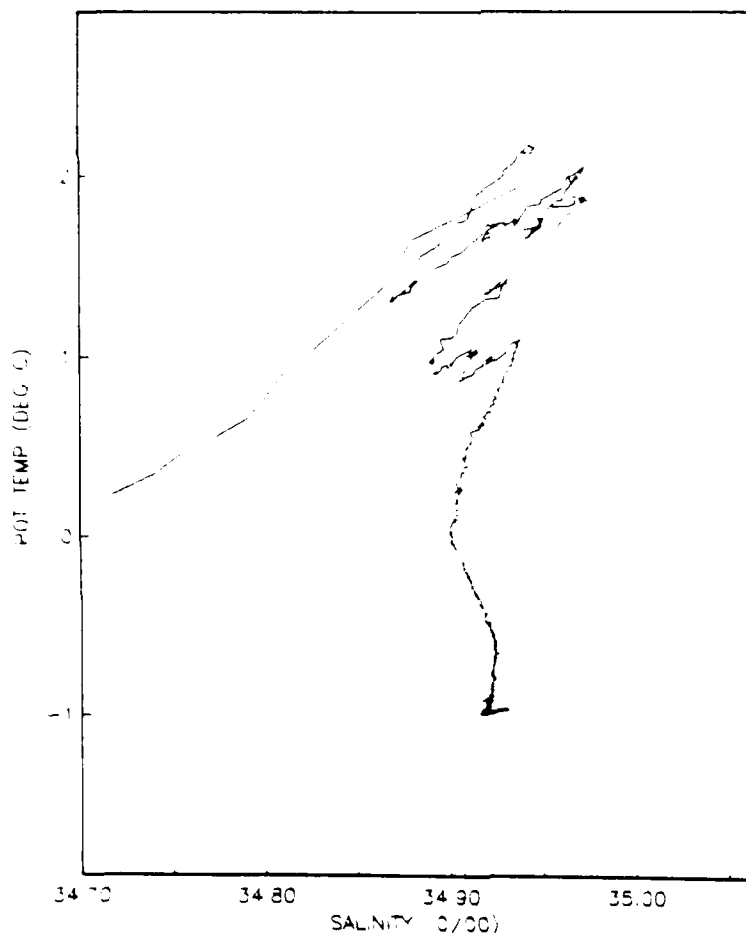


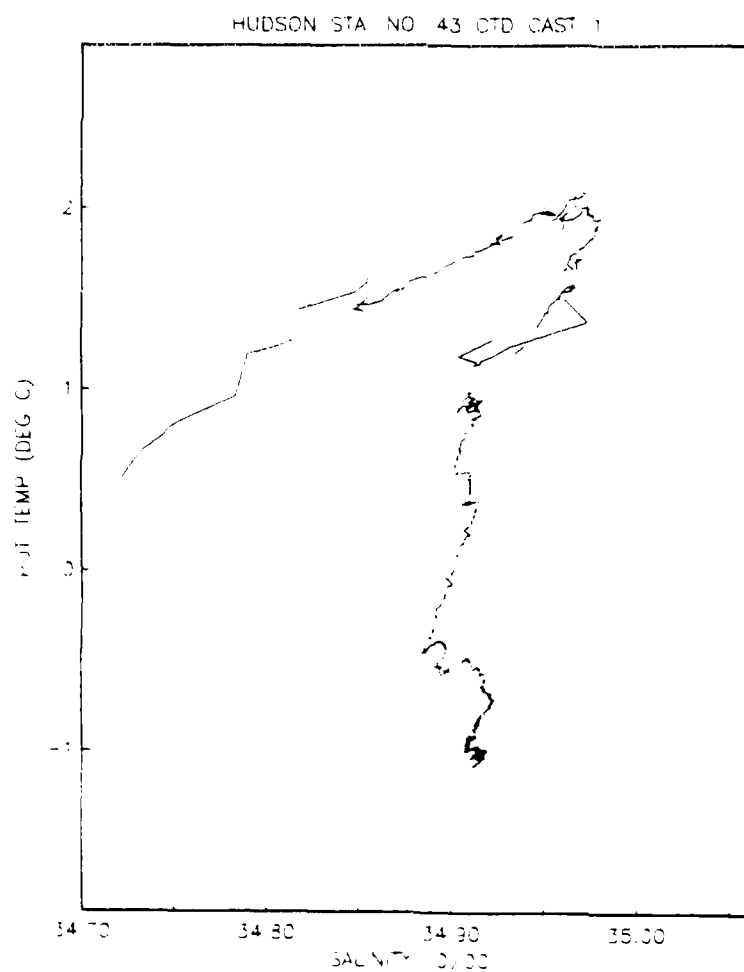
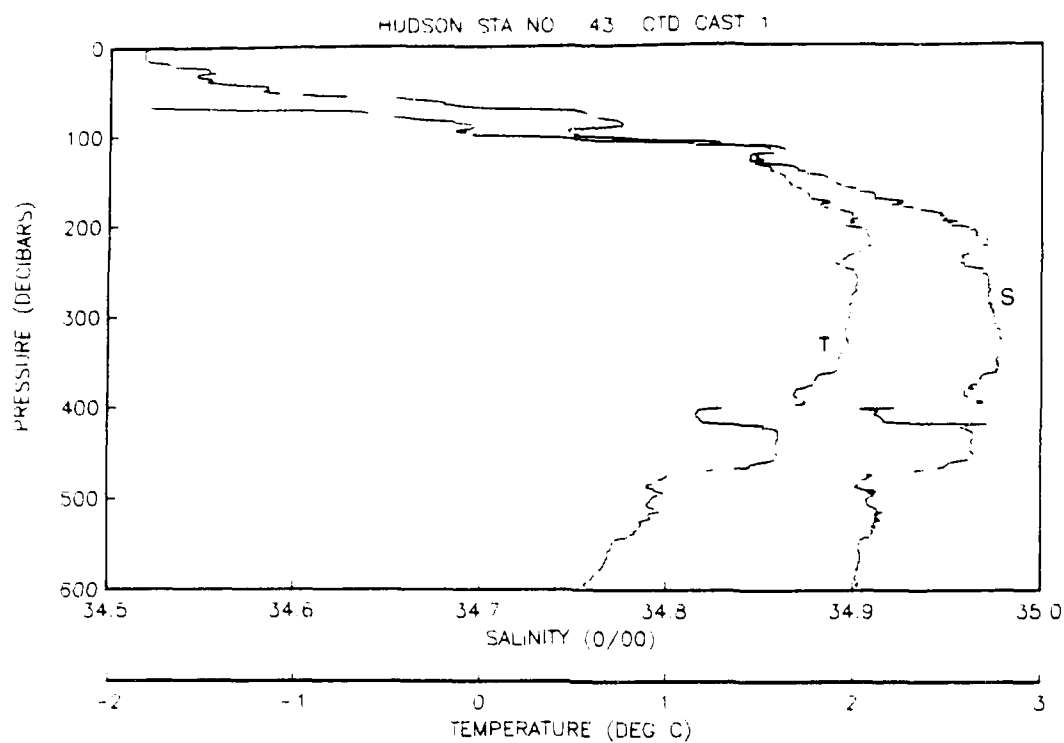


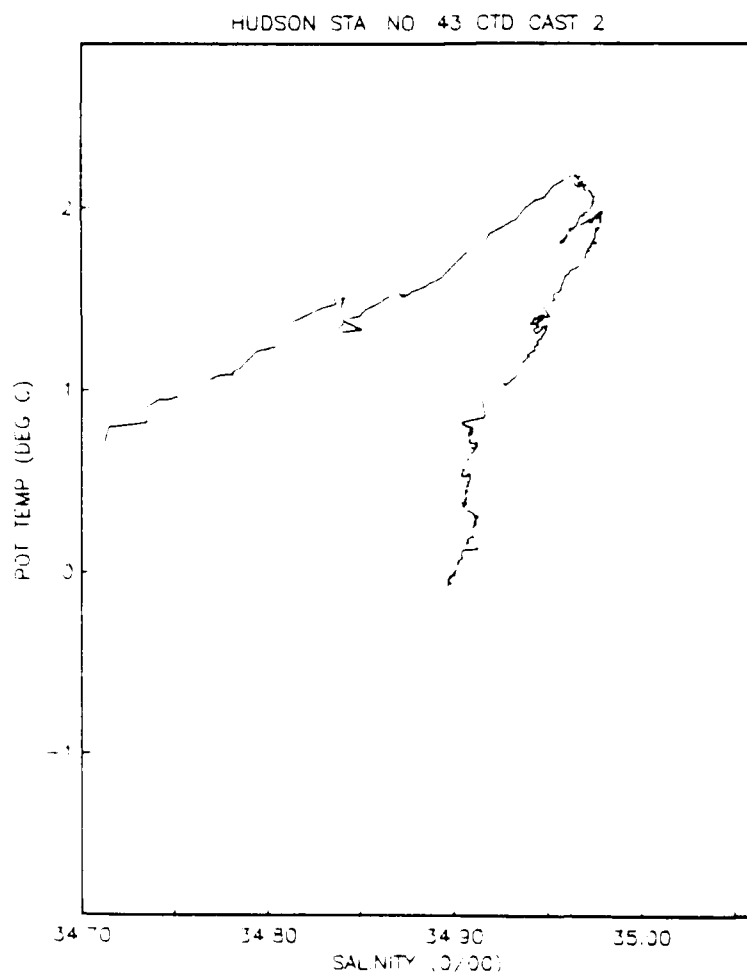
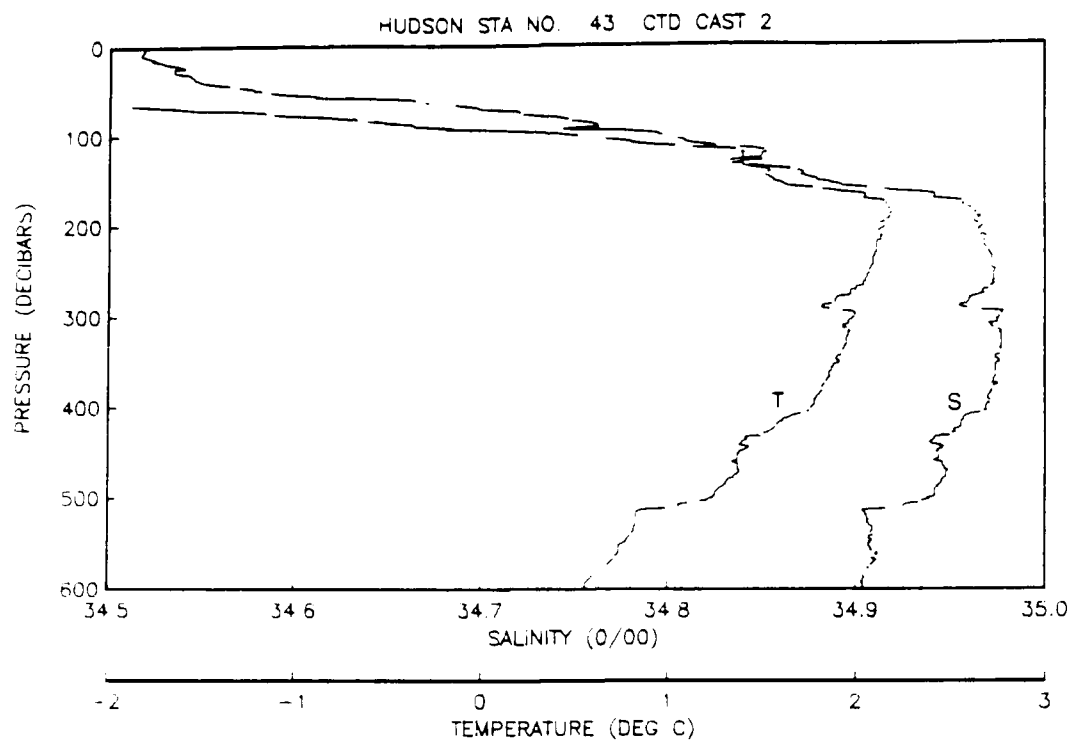
HUDSON STA NO 42 CTD CAST 1

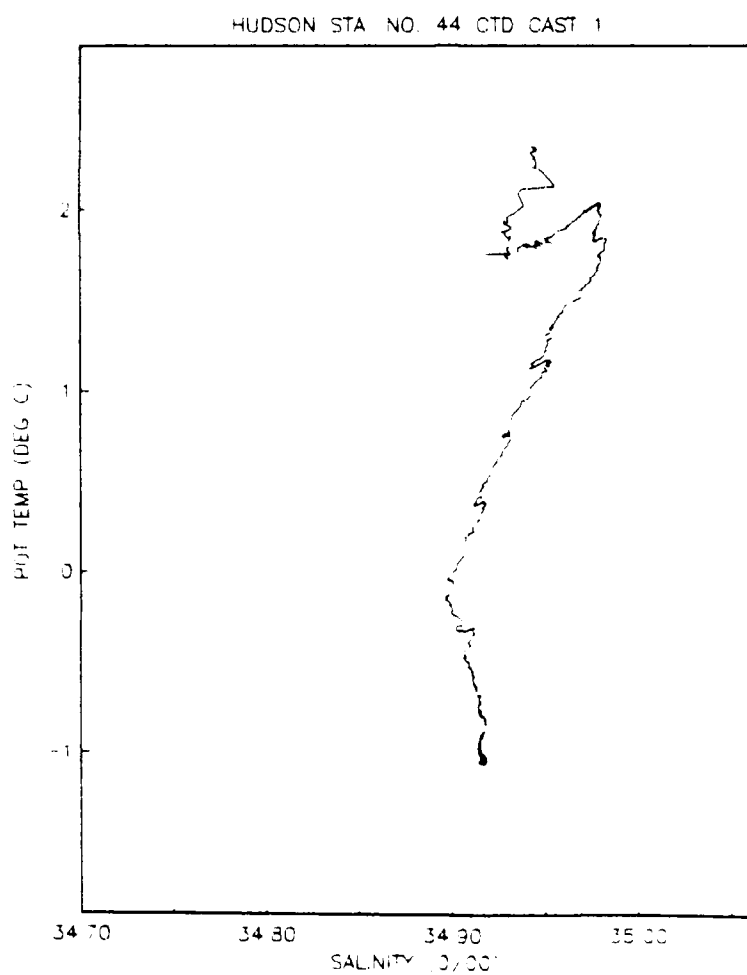
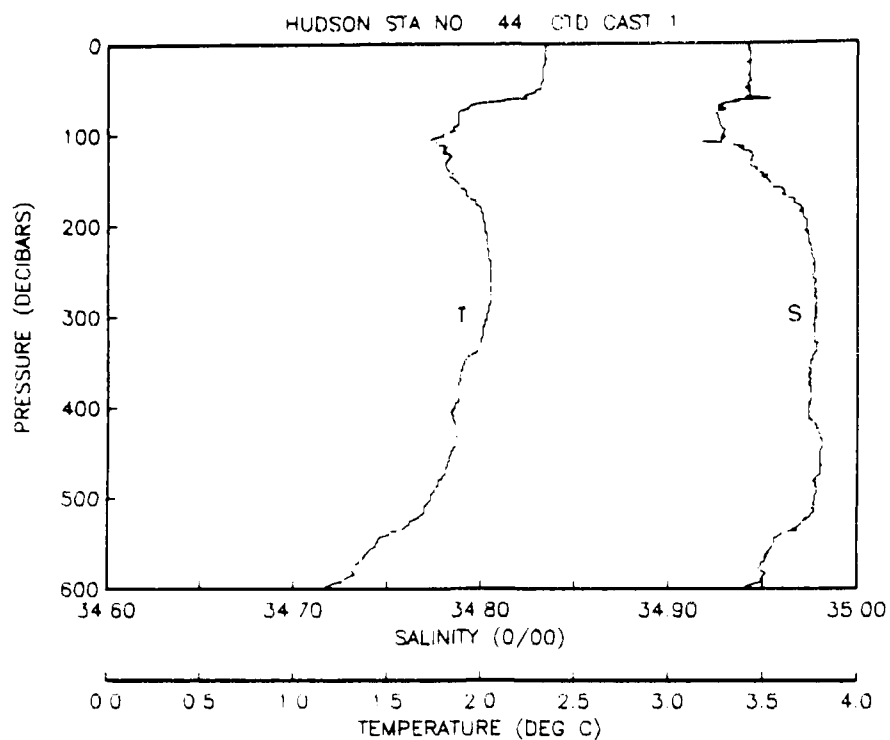


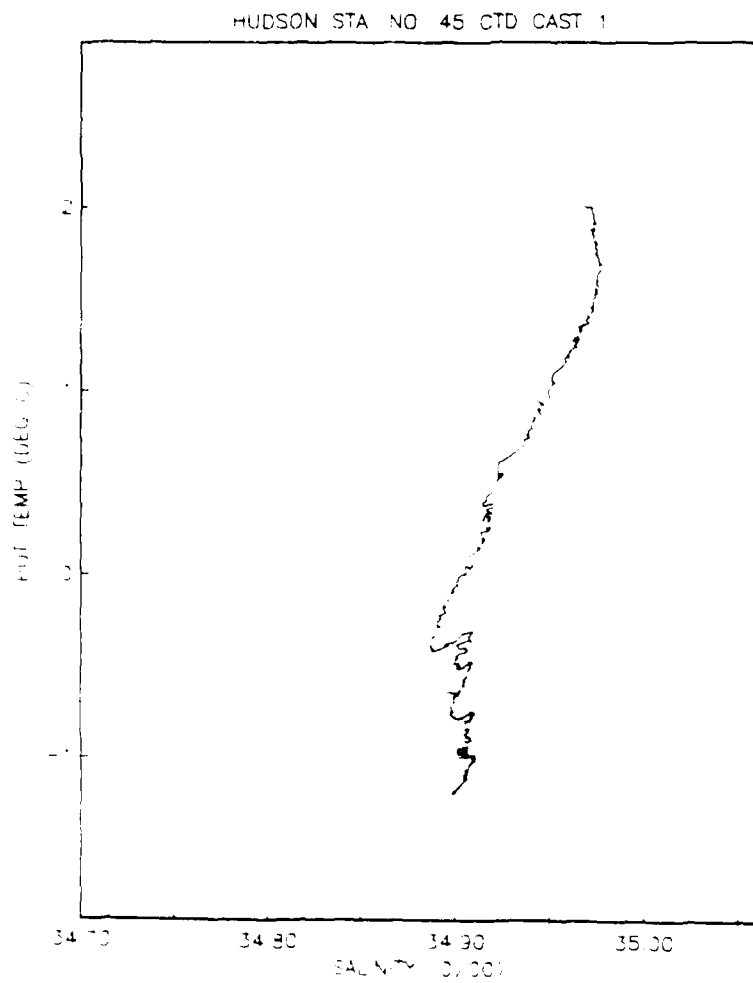
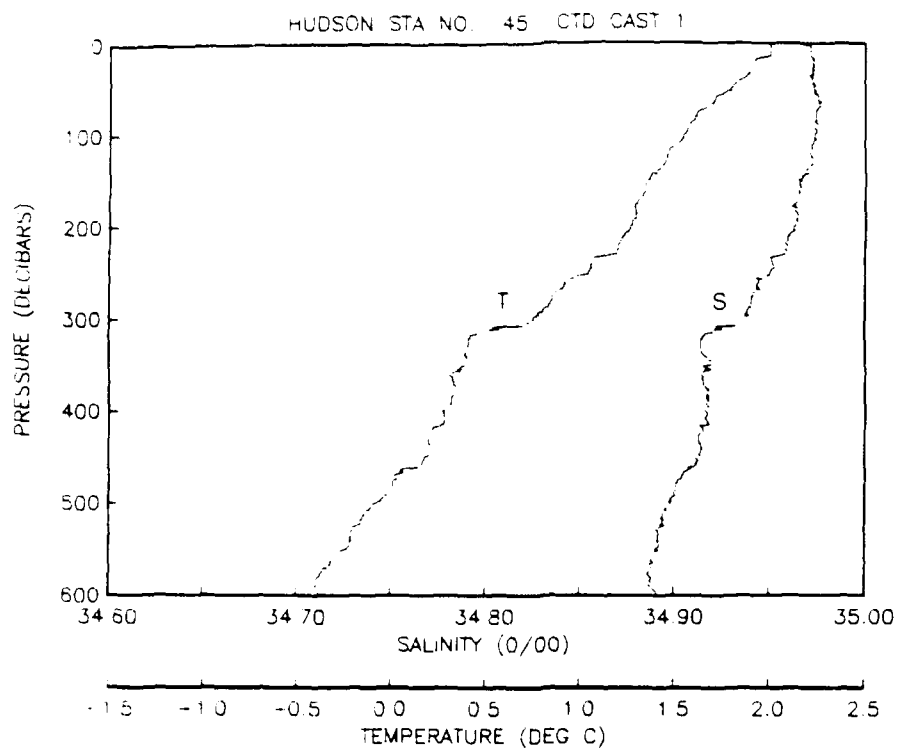
HUDSON STA NO 42 CTD CAST 1

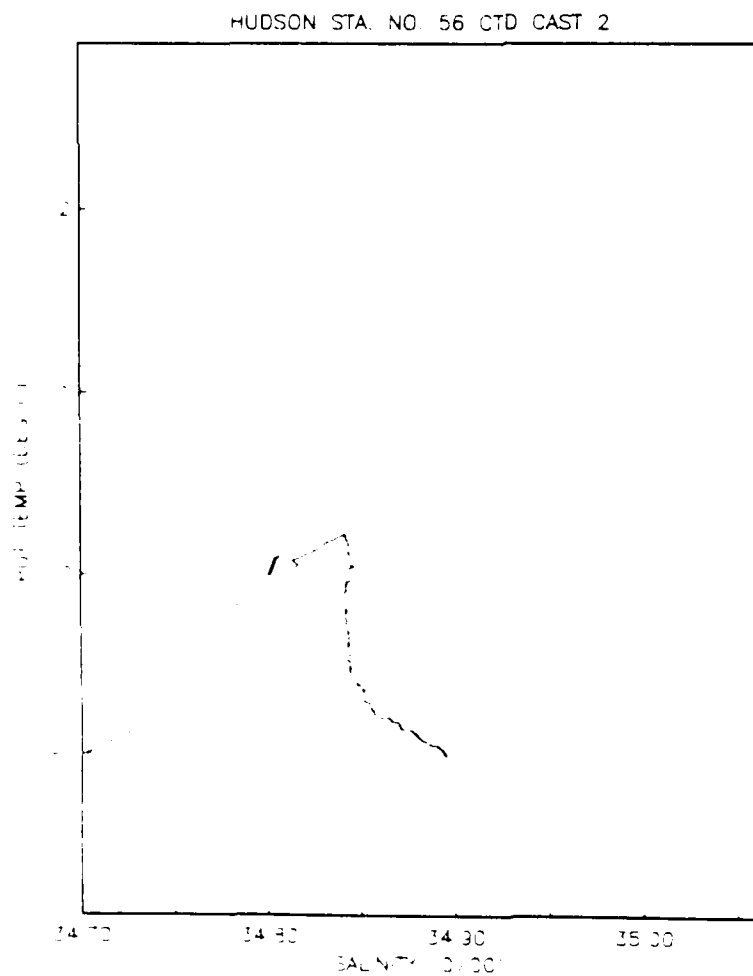
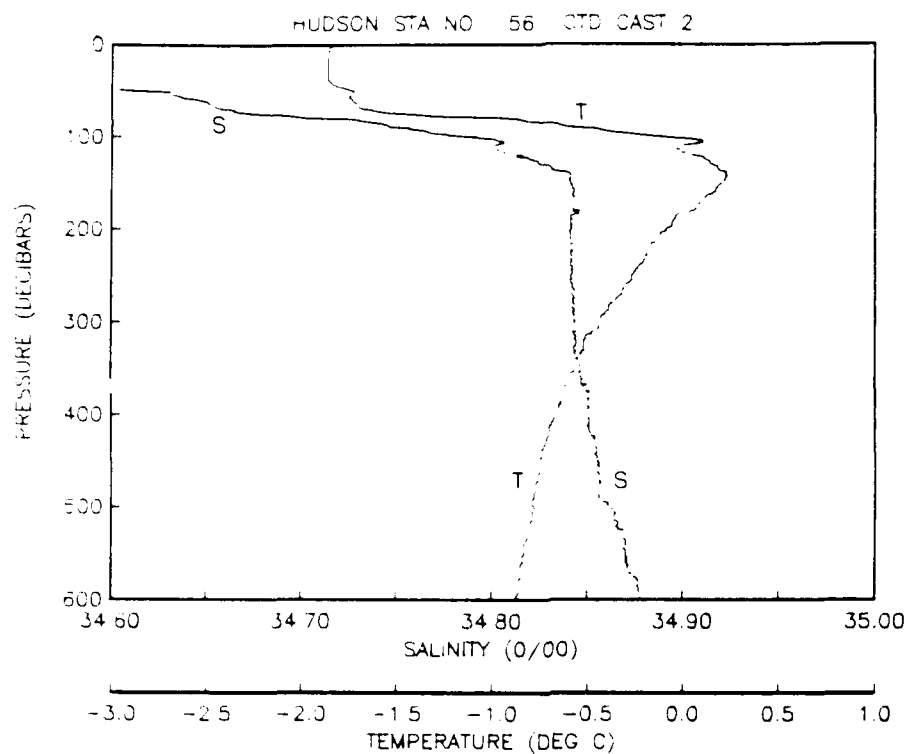


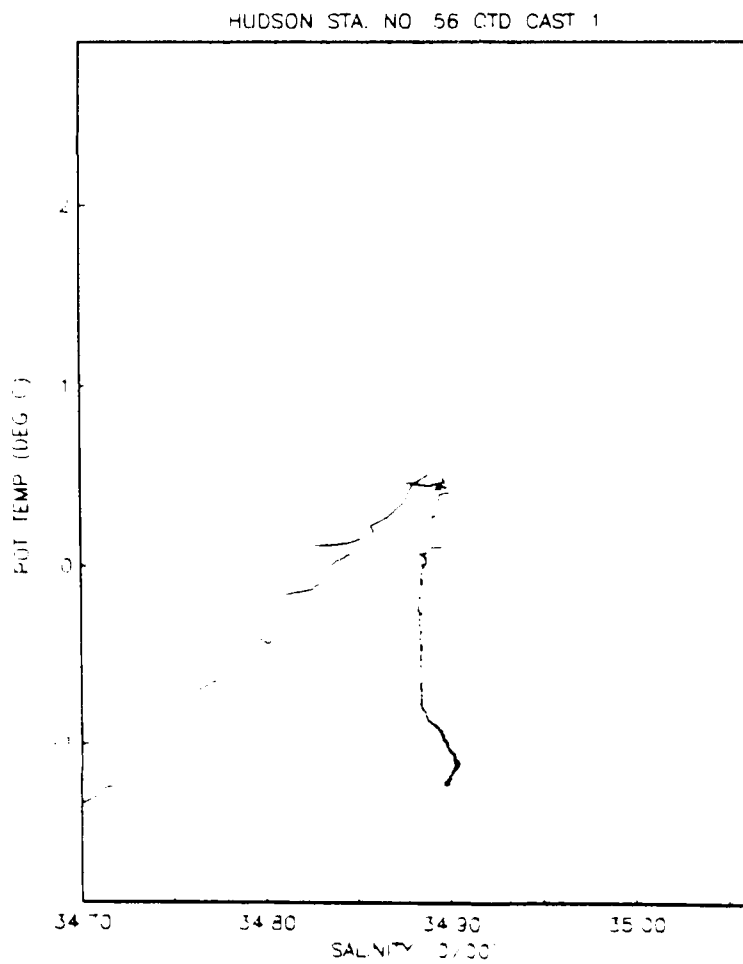
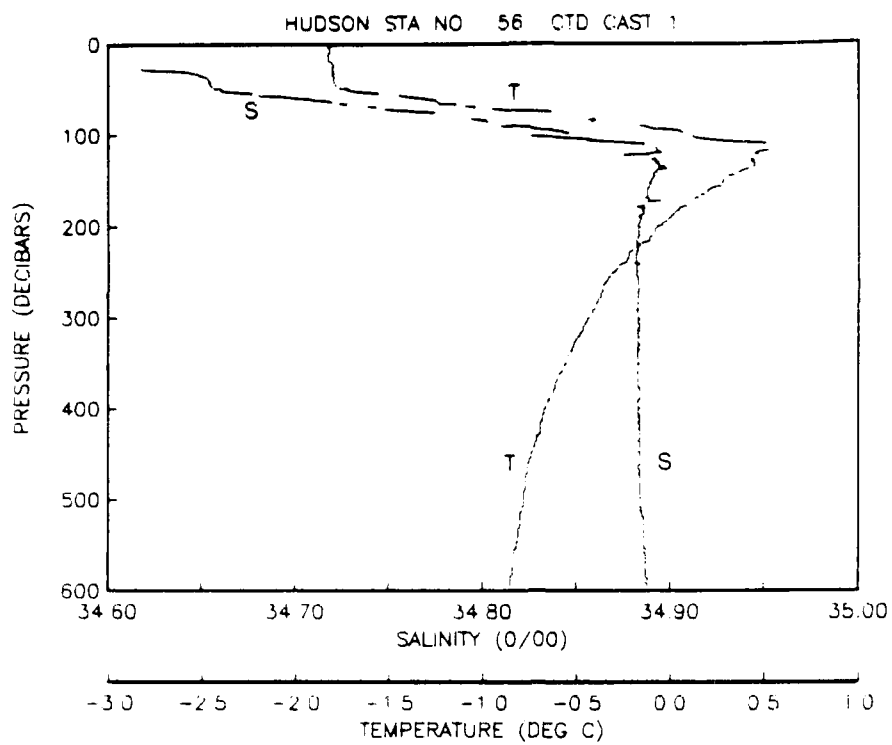




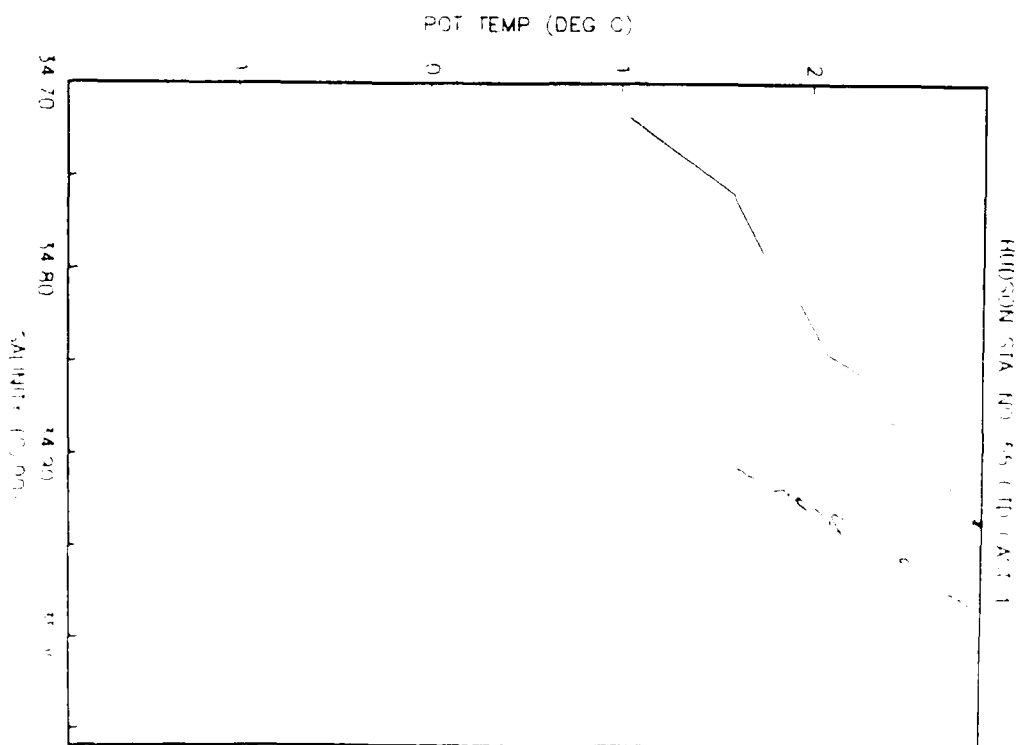
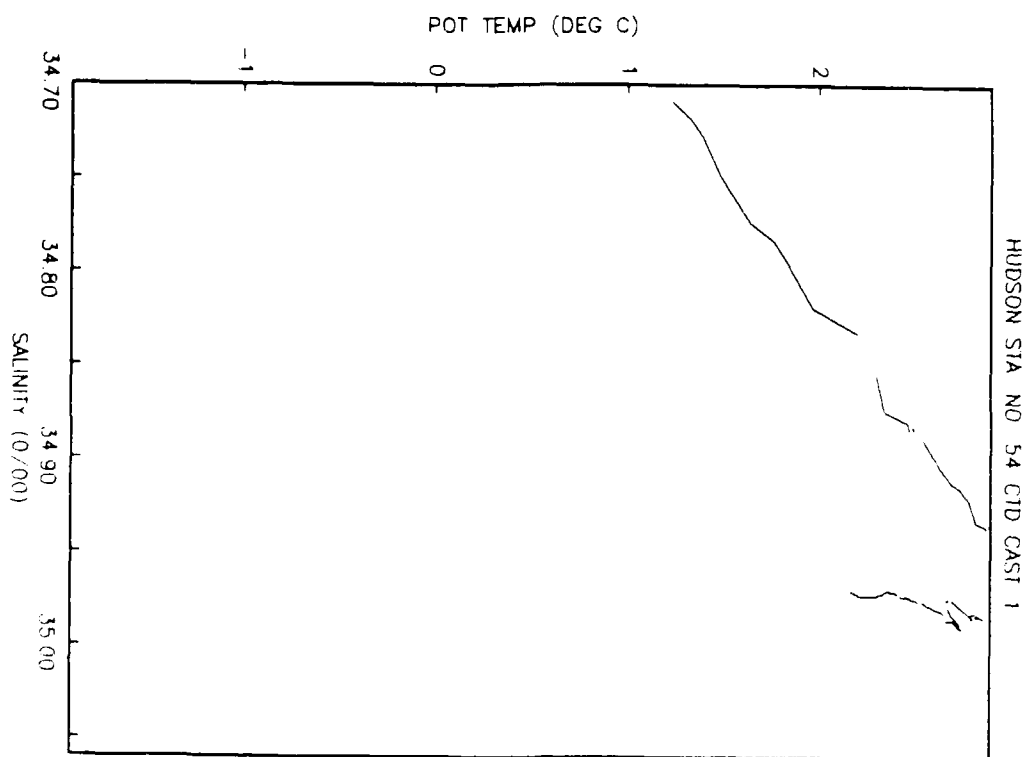




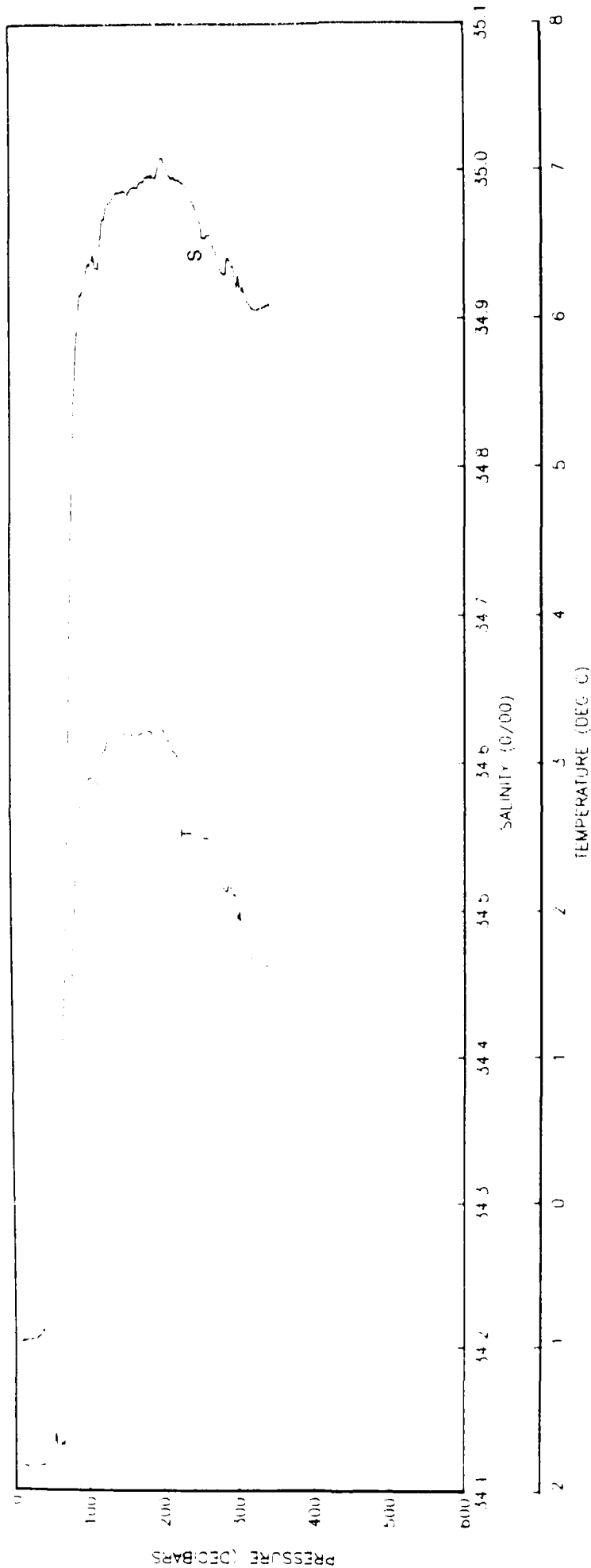


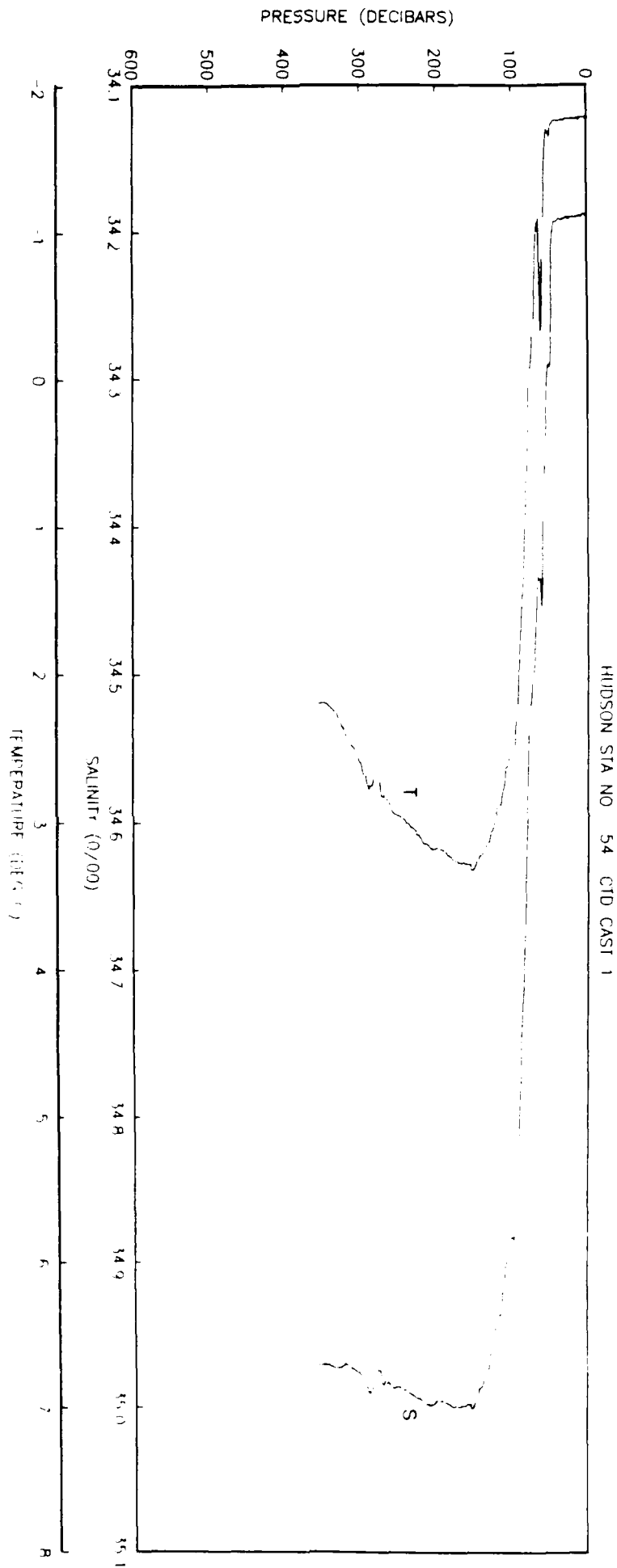


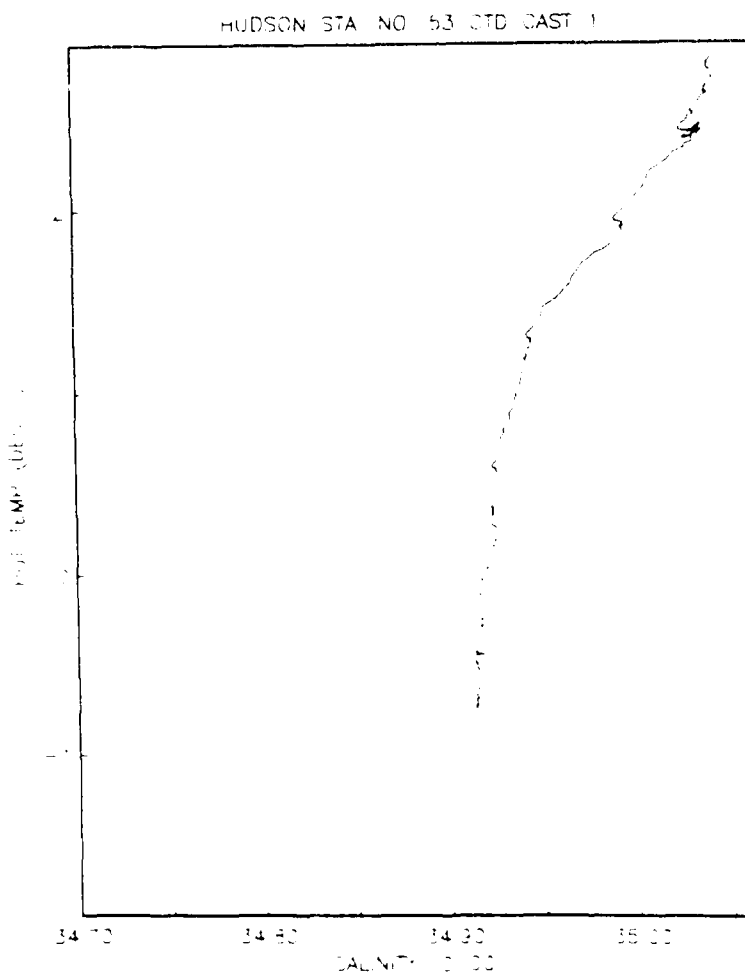
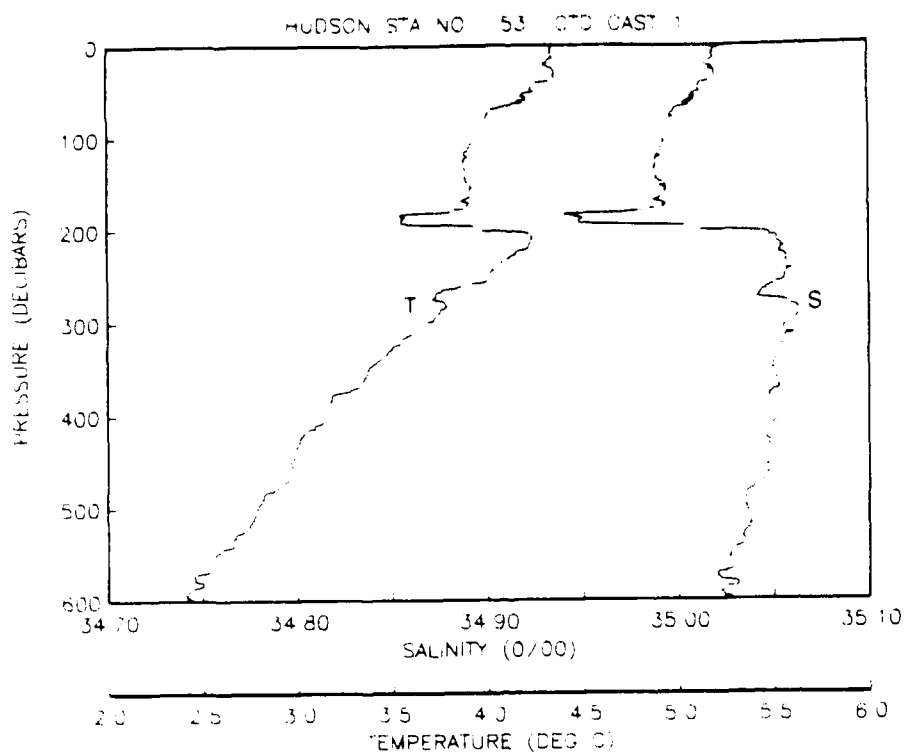


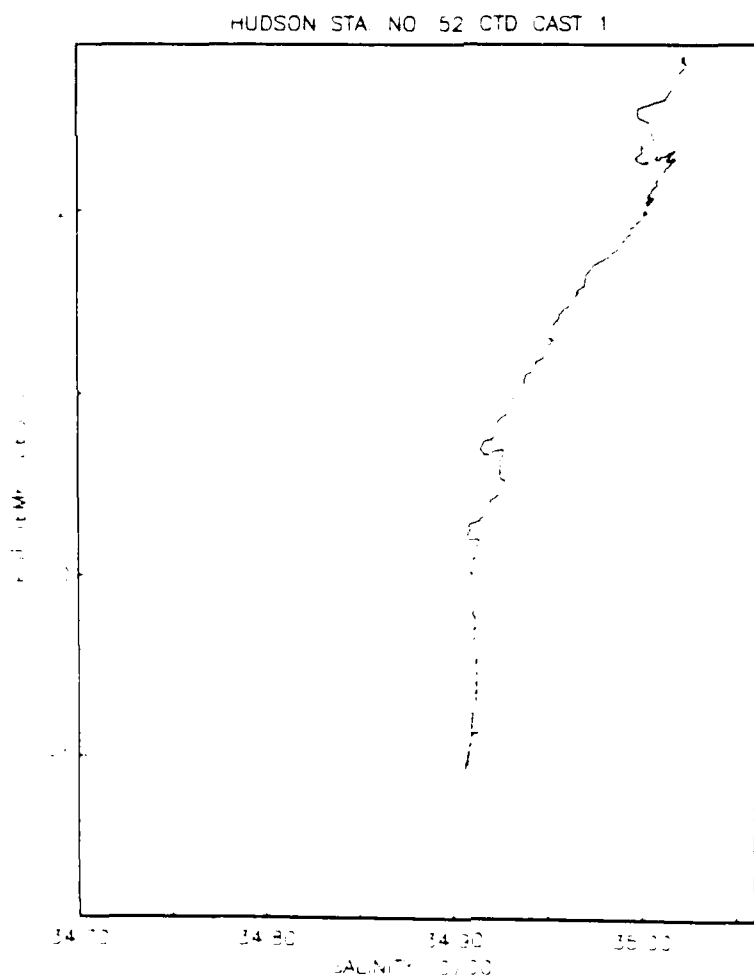
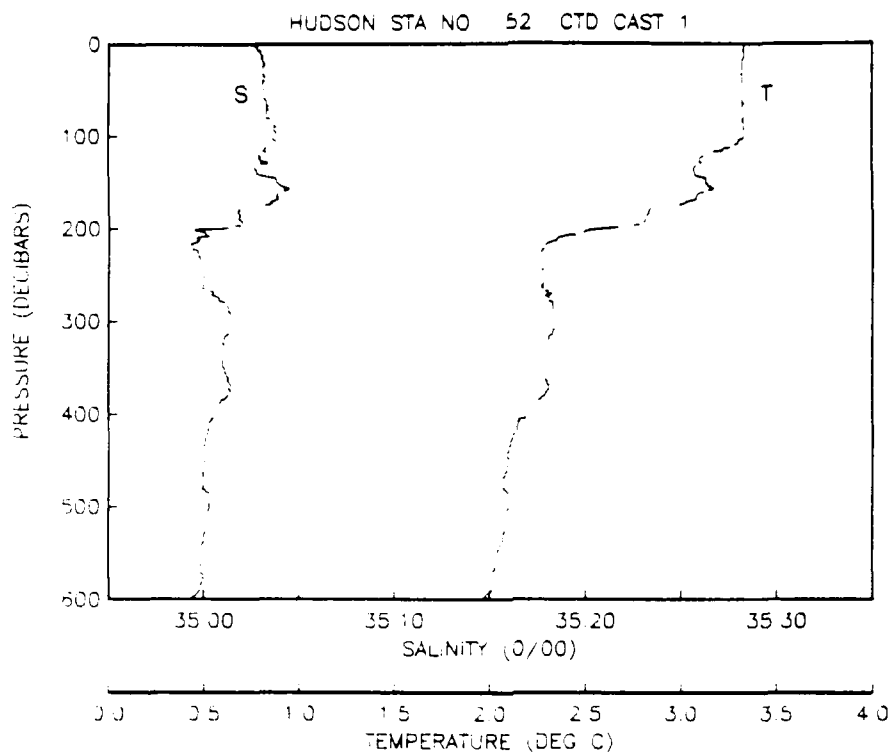


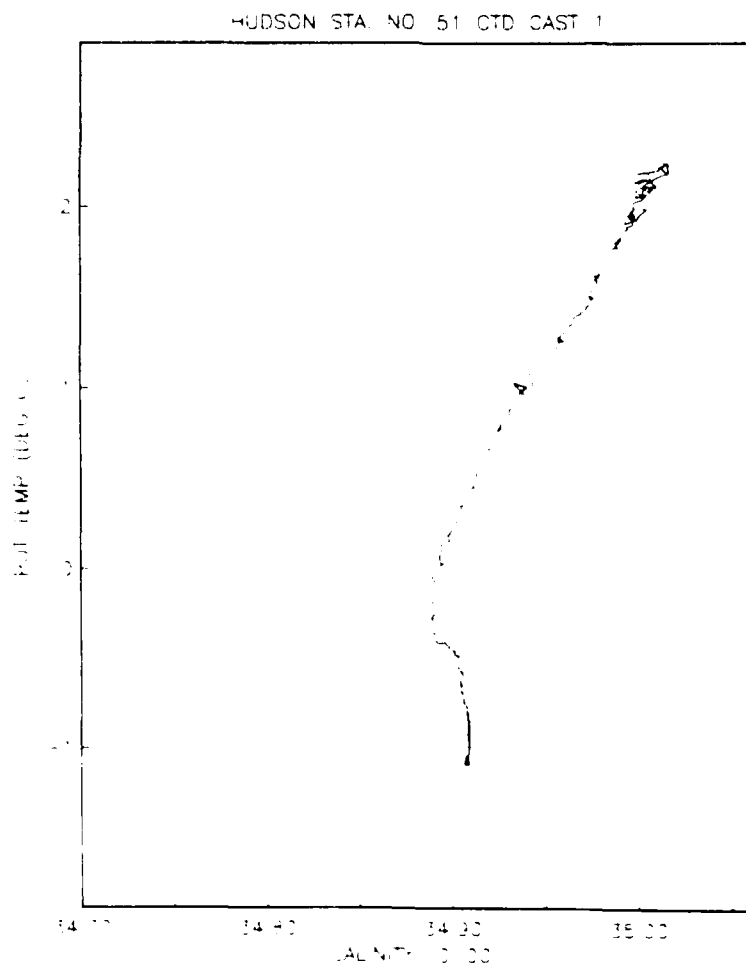
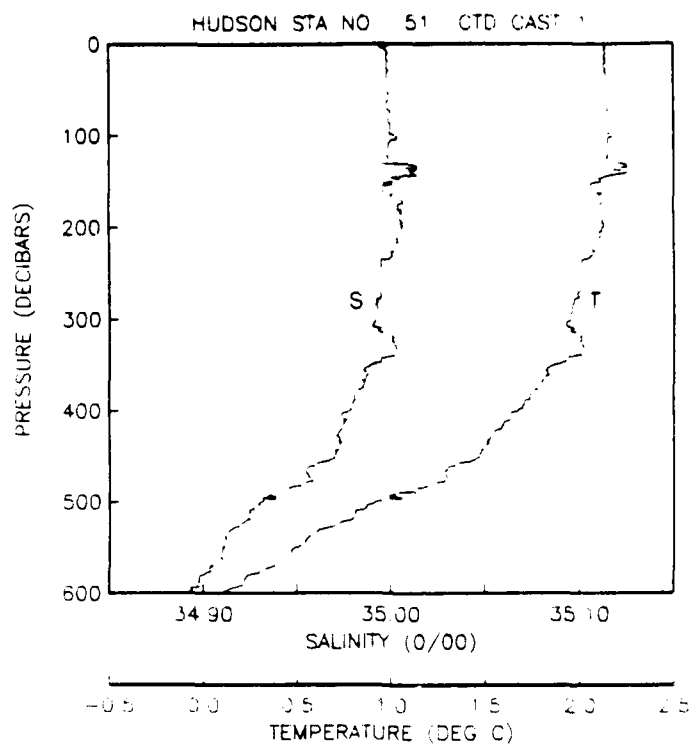
station 51A No. 50 010 EAST 1

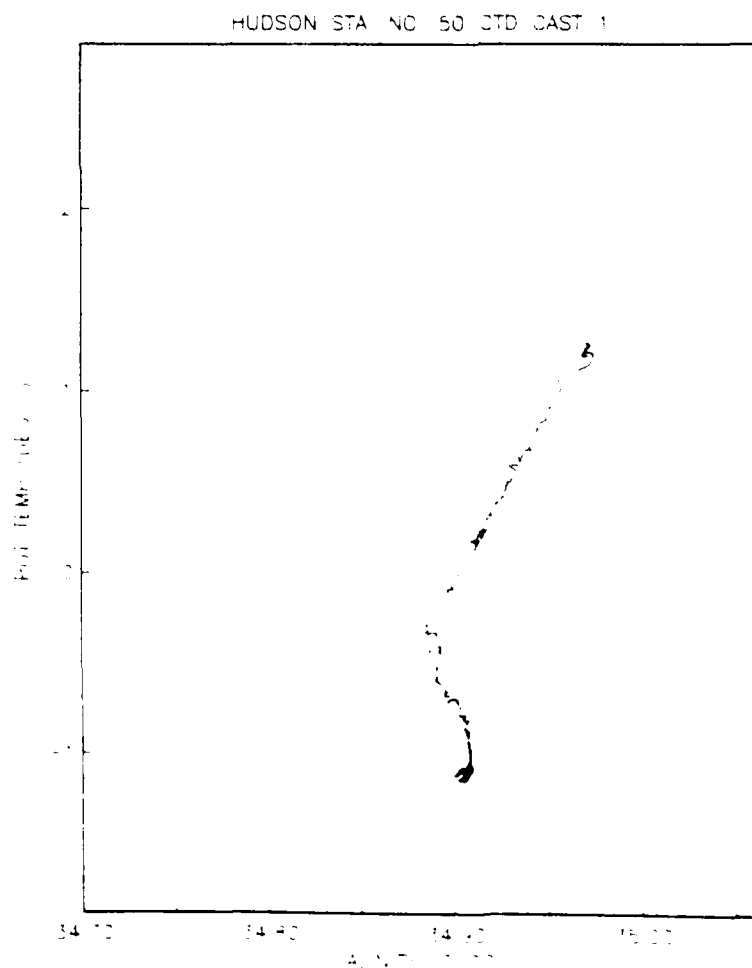
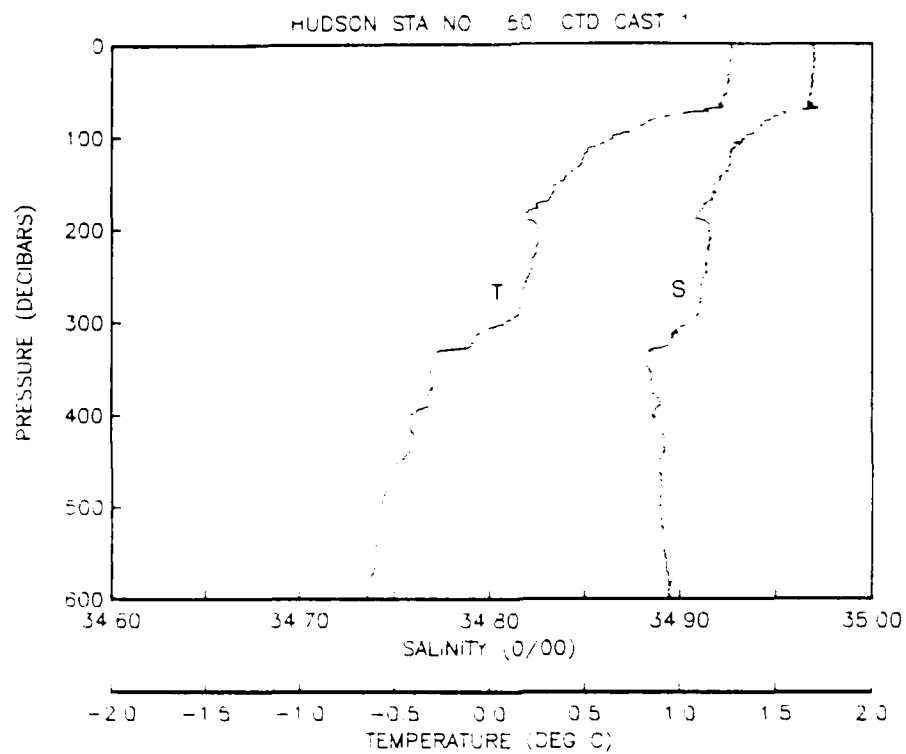


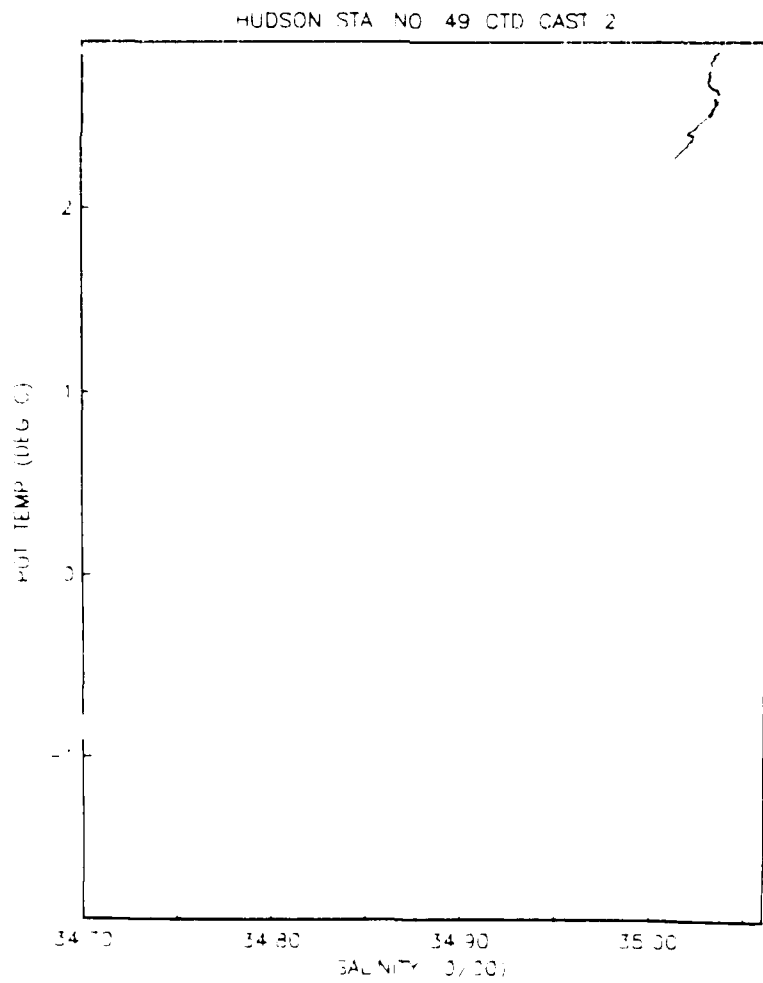
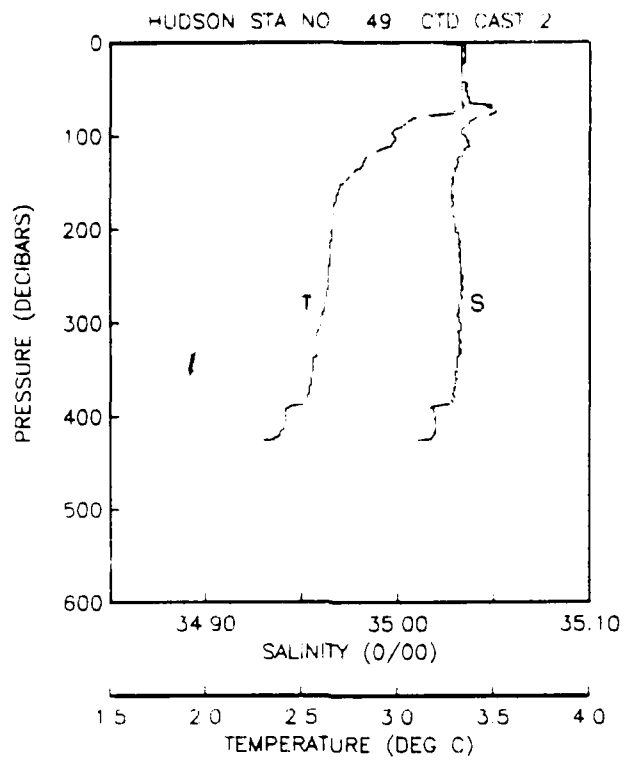




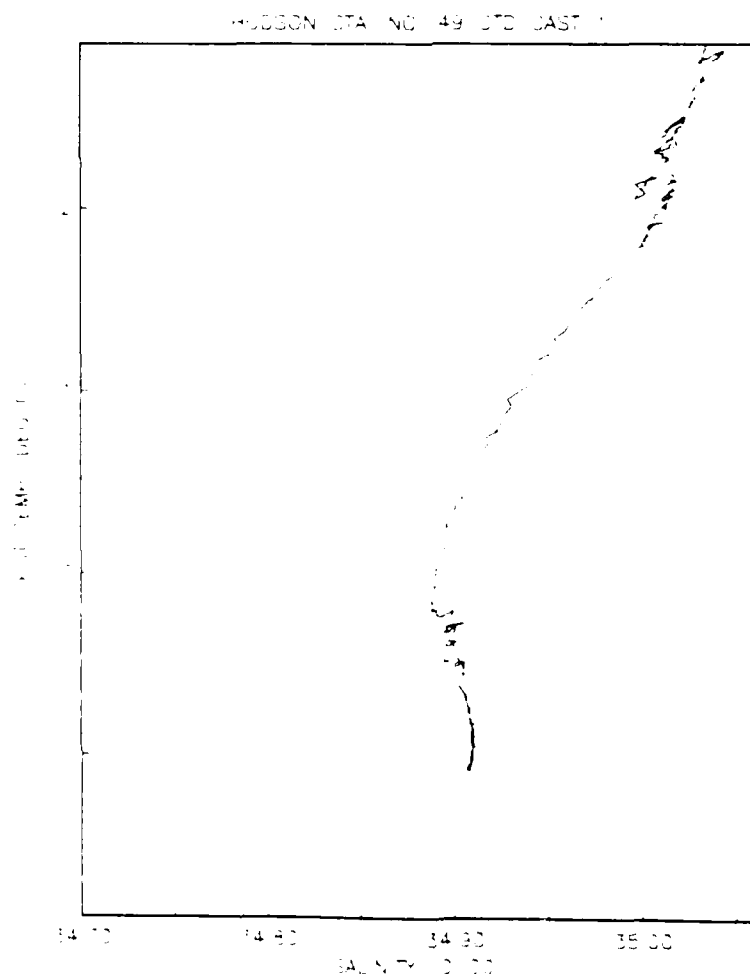
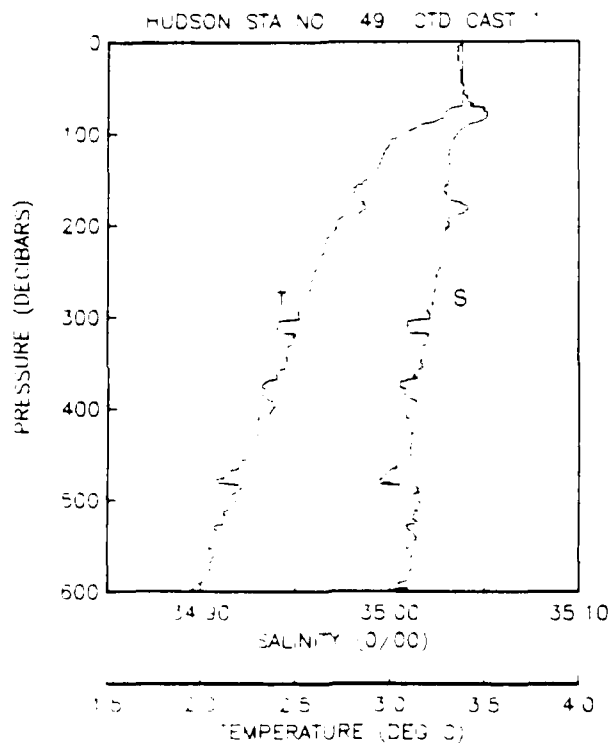


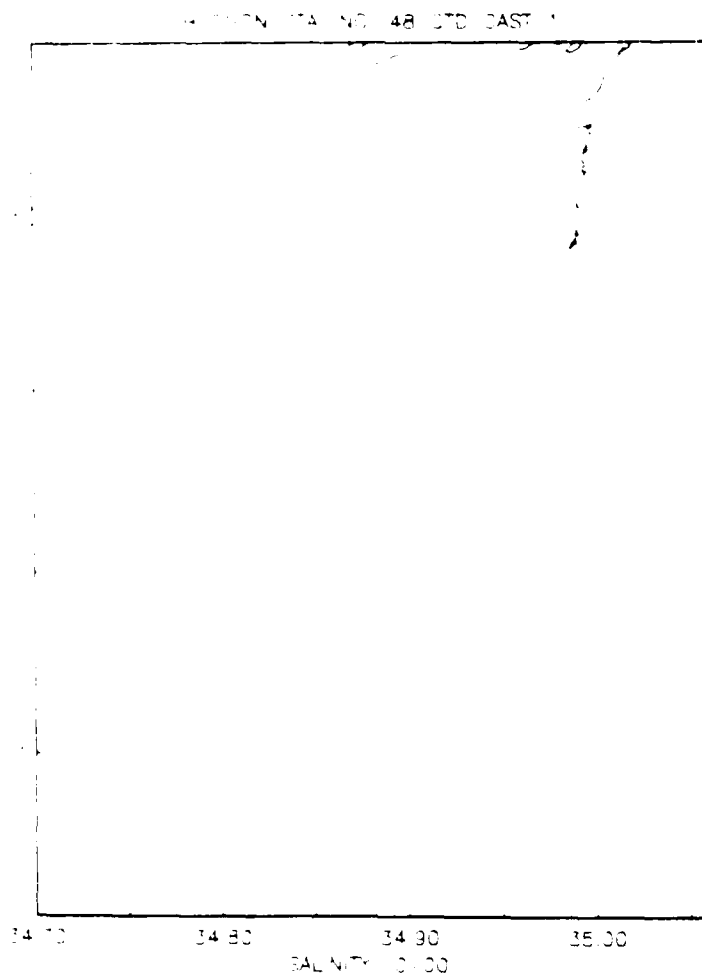
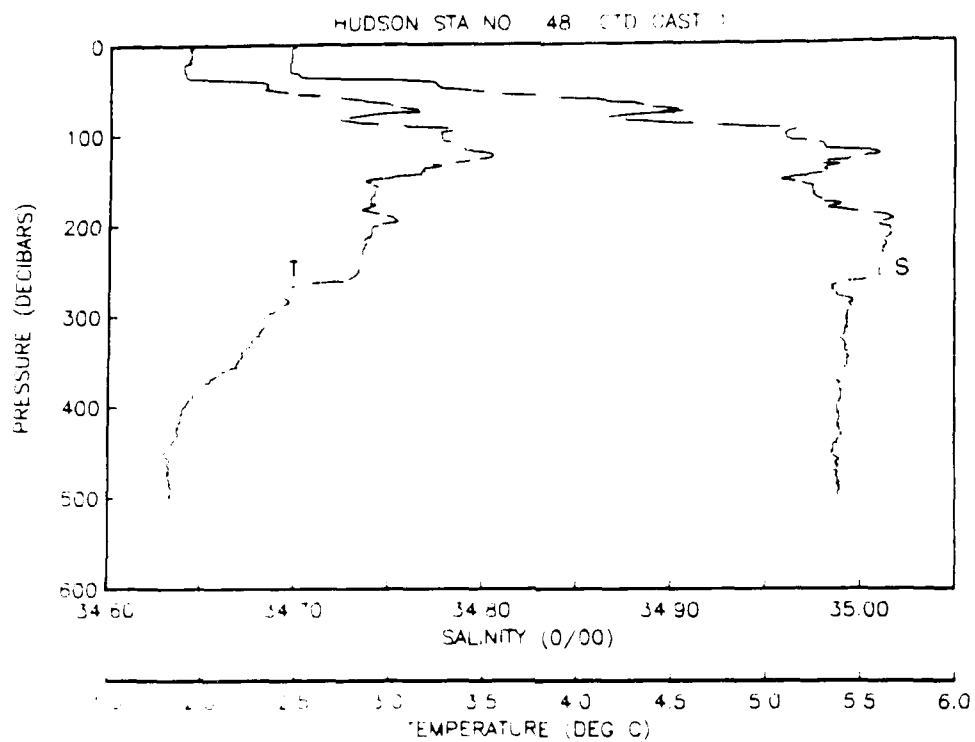


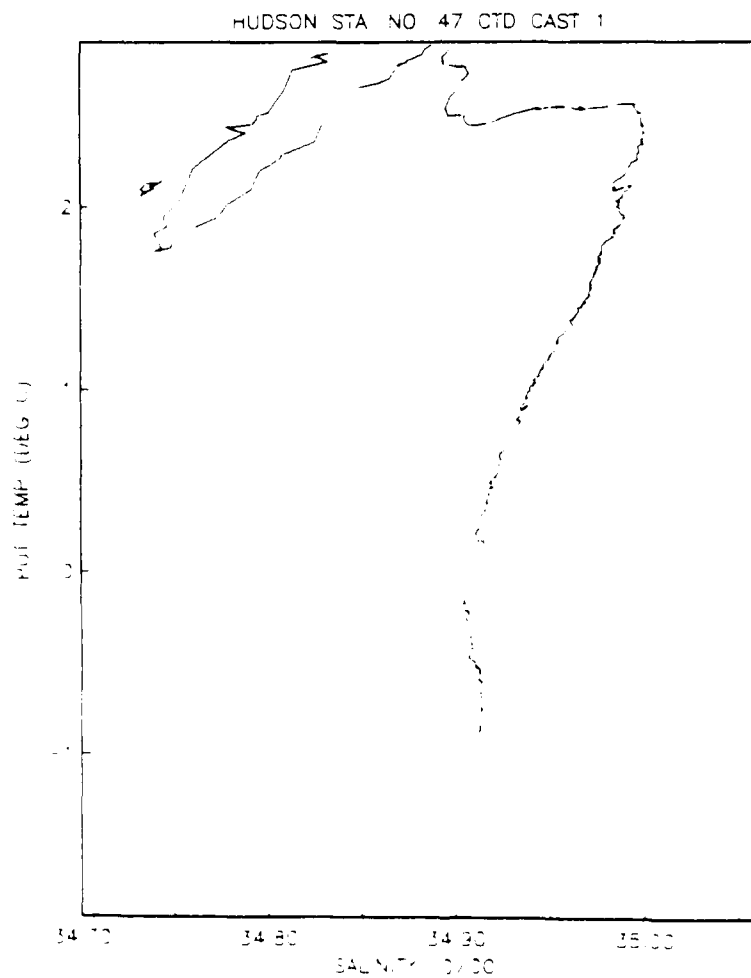
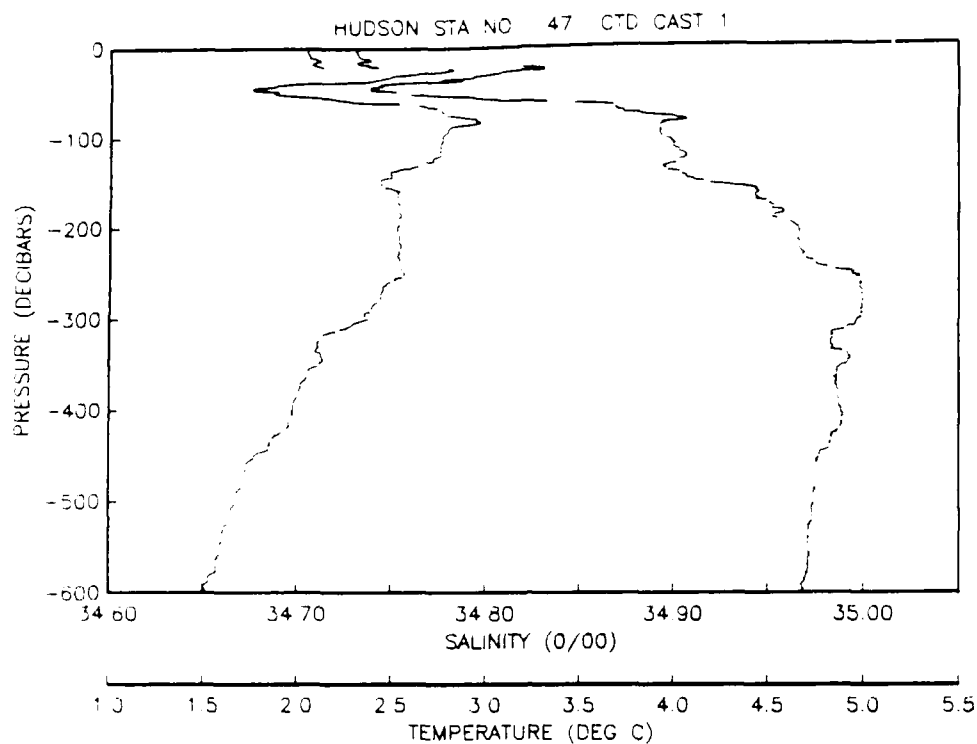


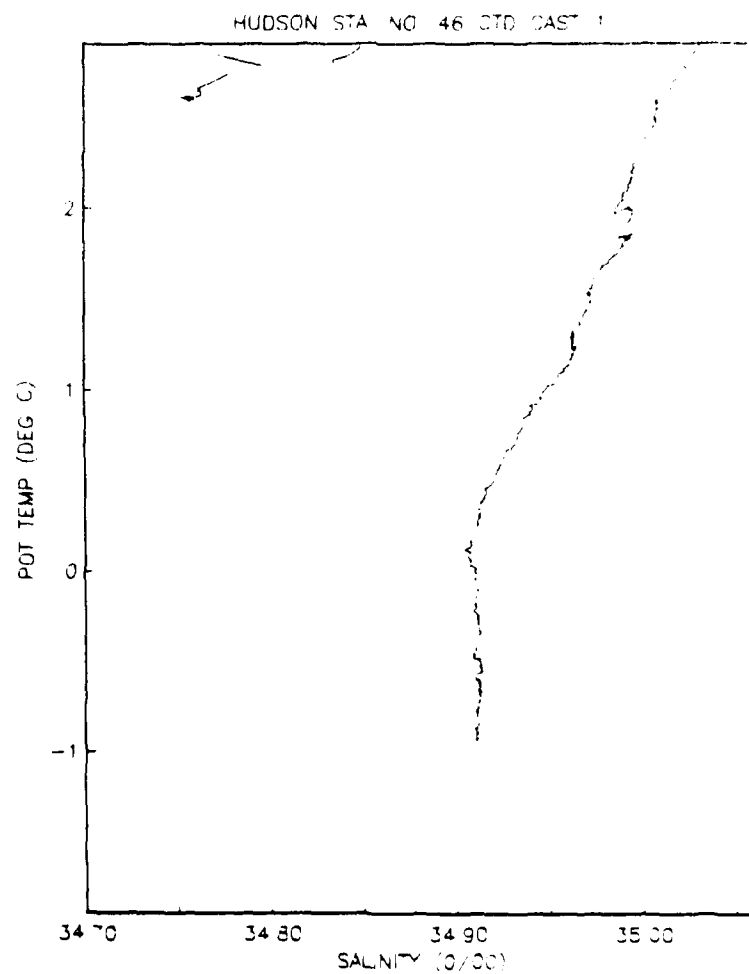
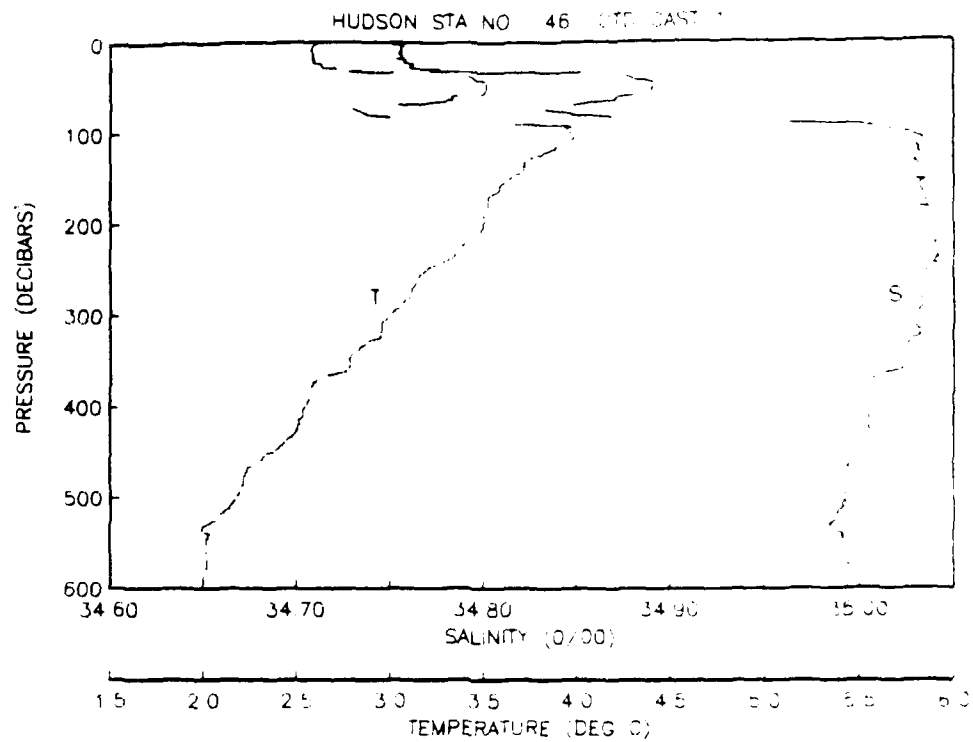


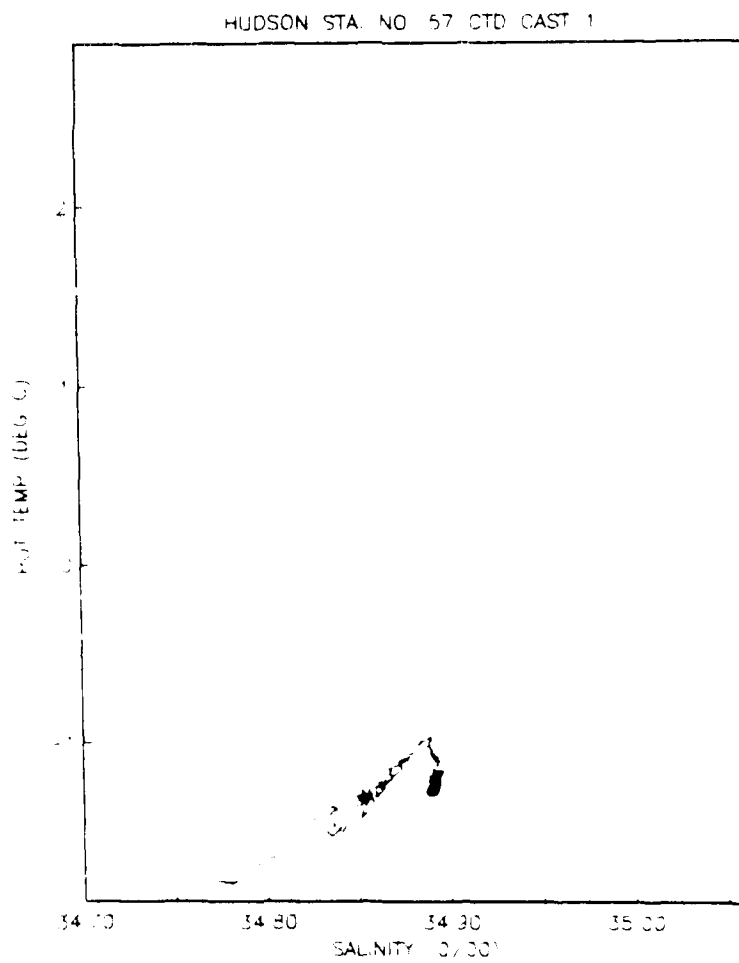
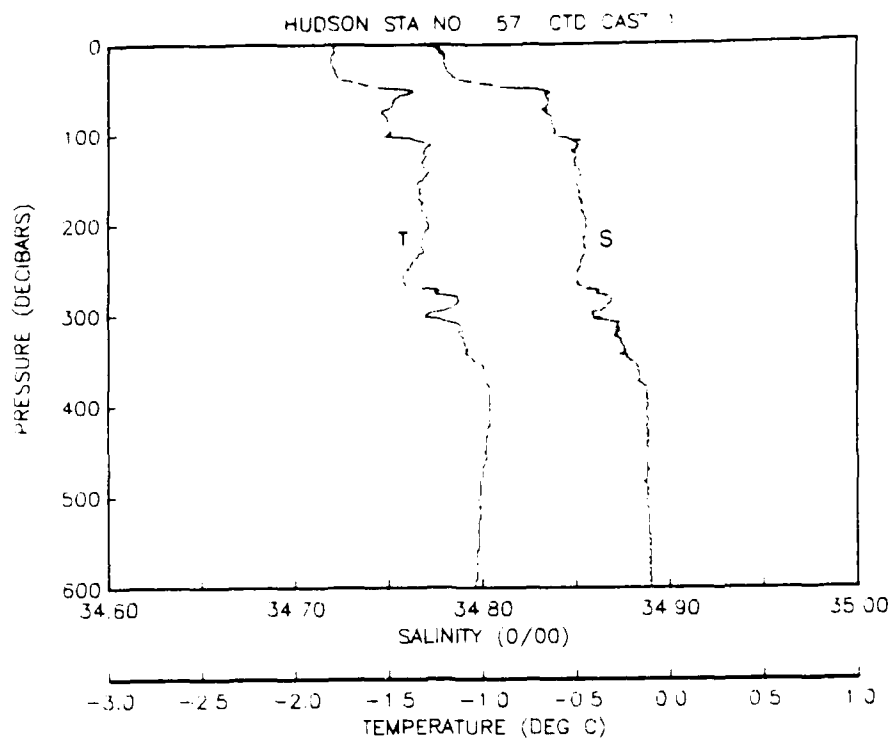


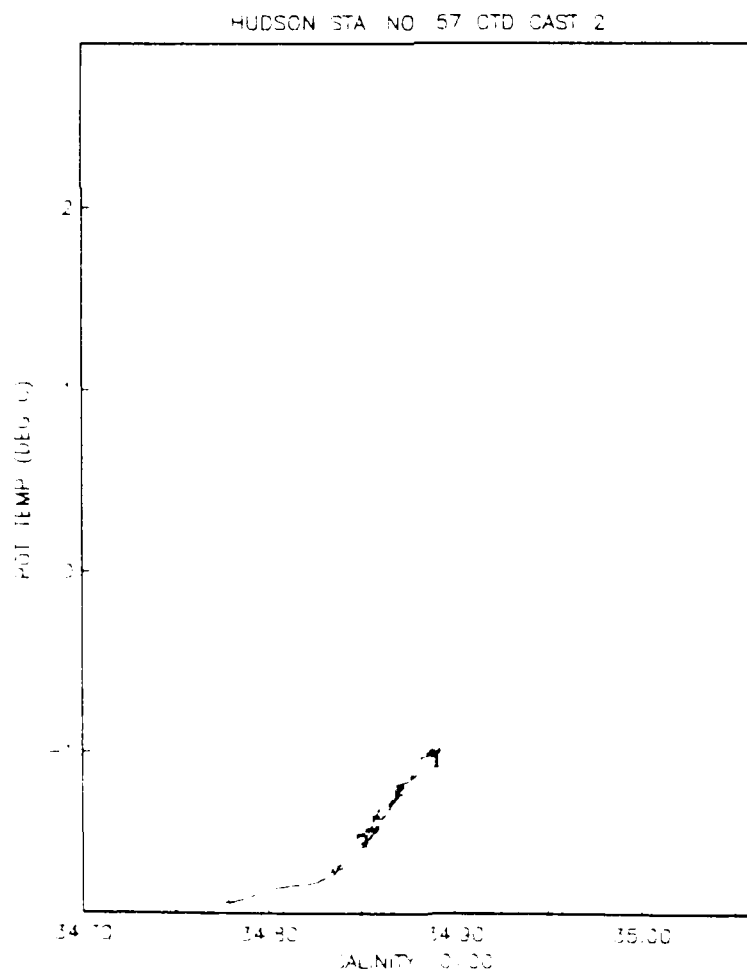
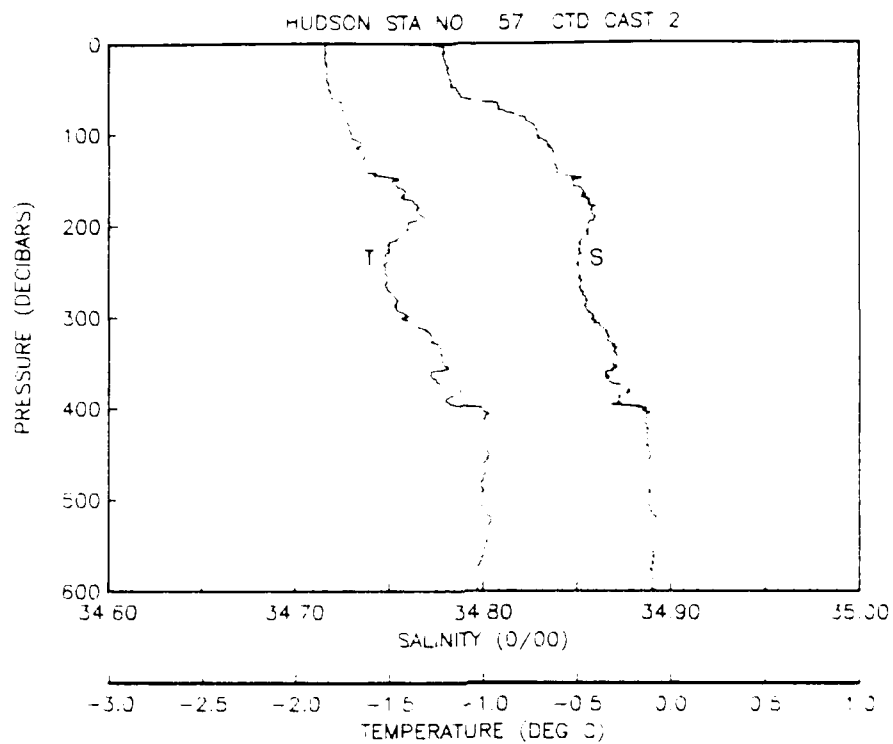


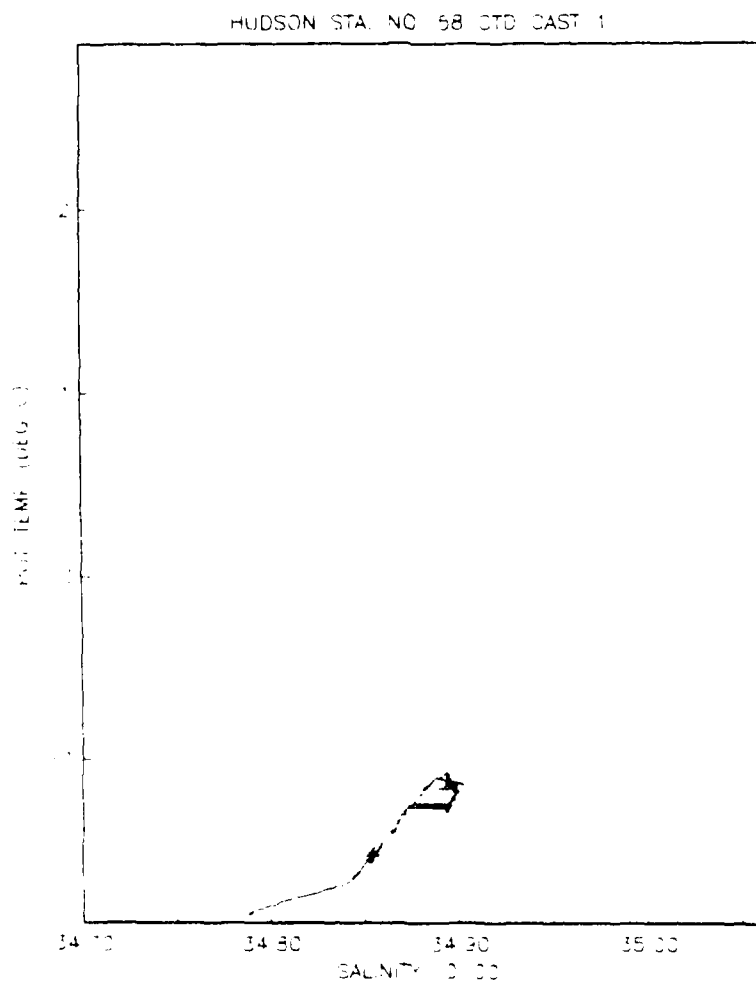
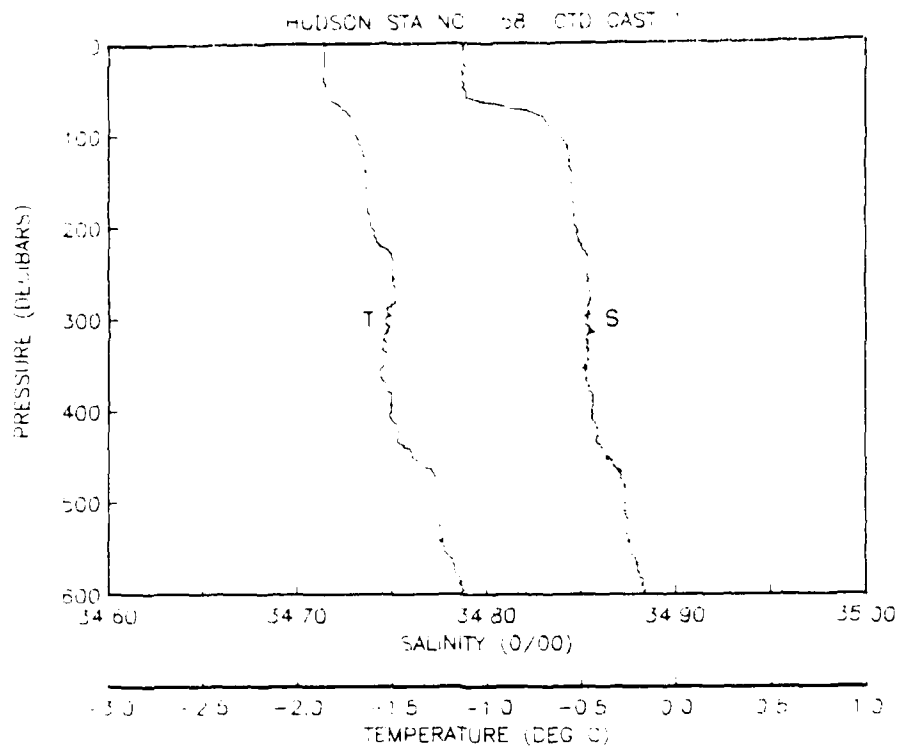


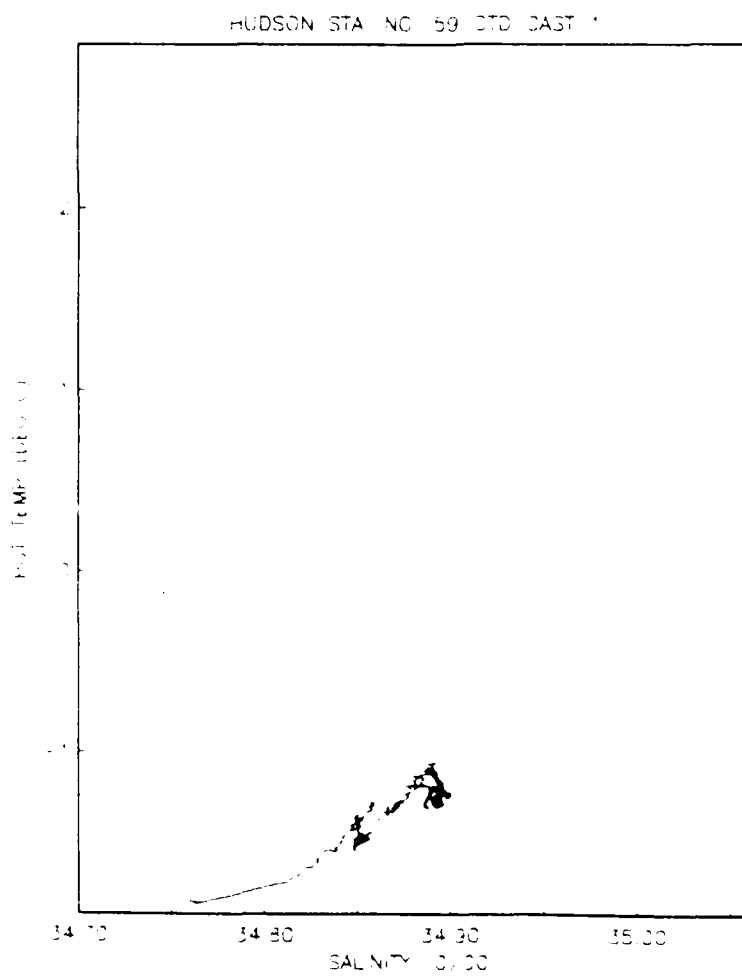
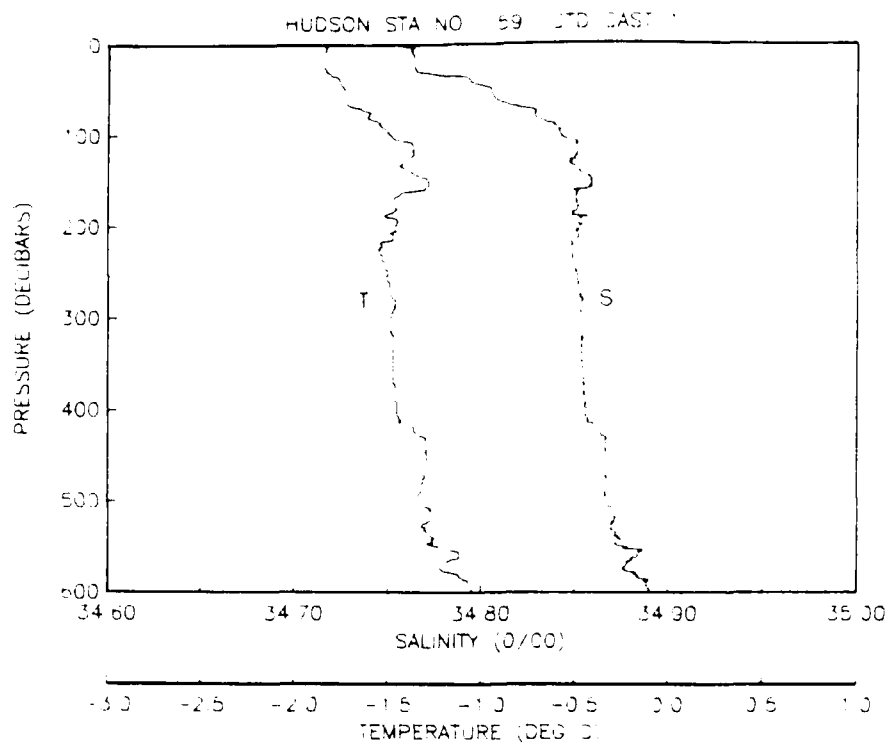




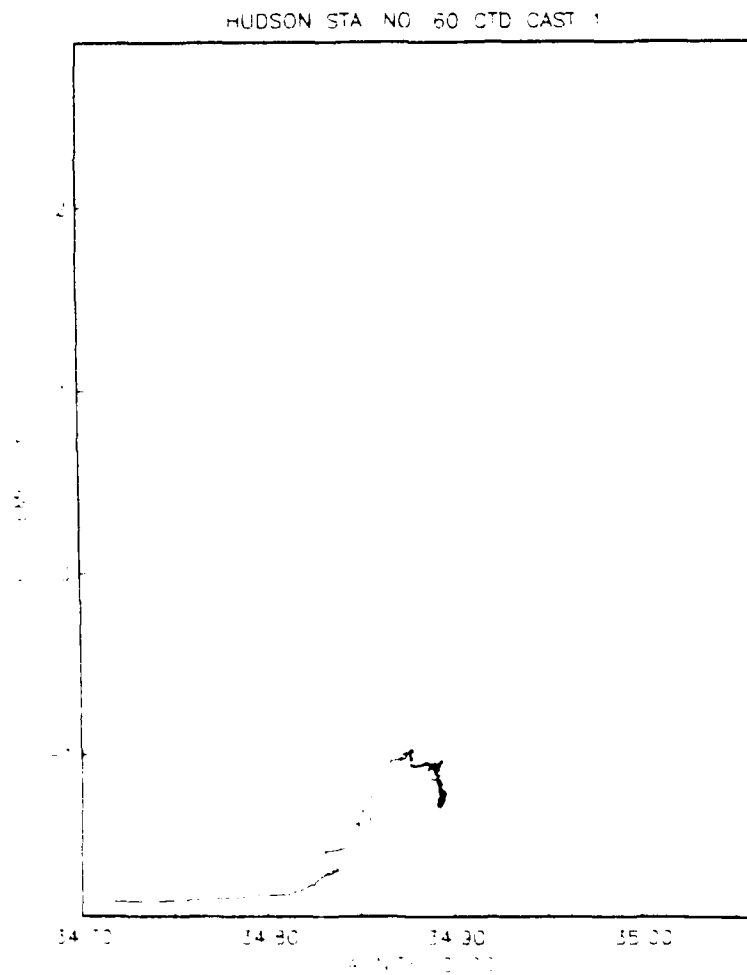
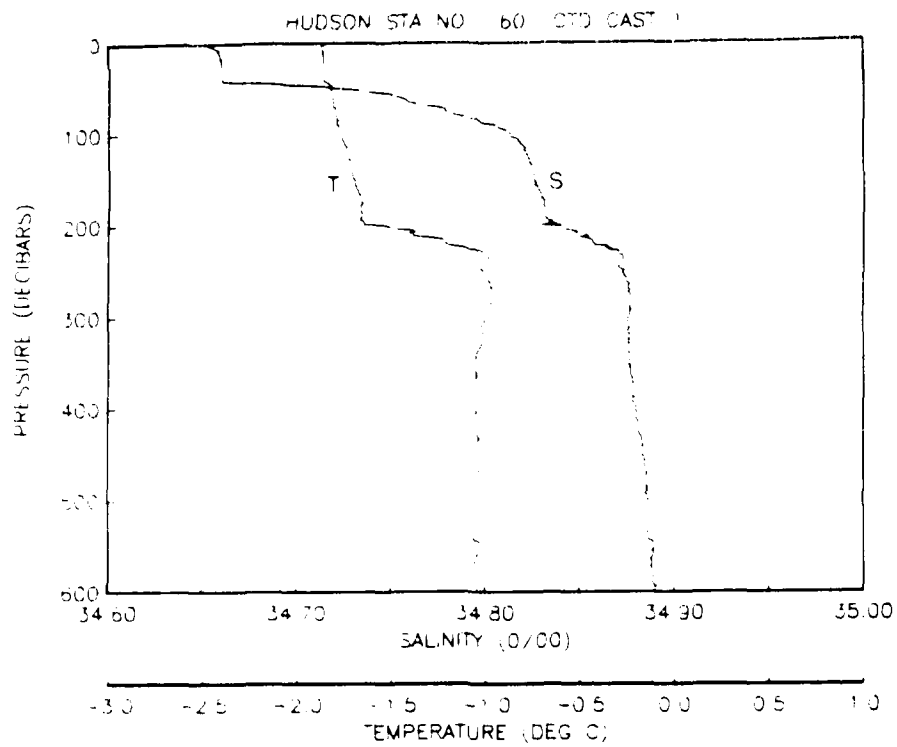


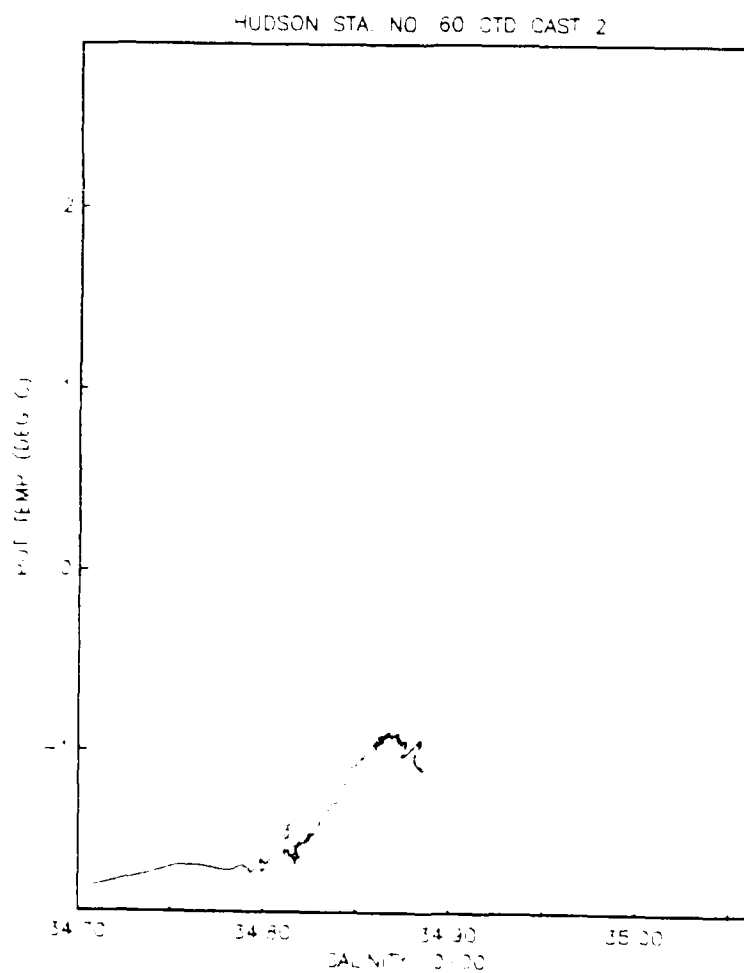
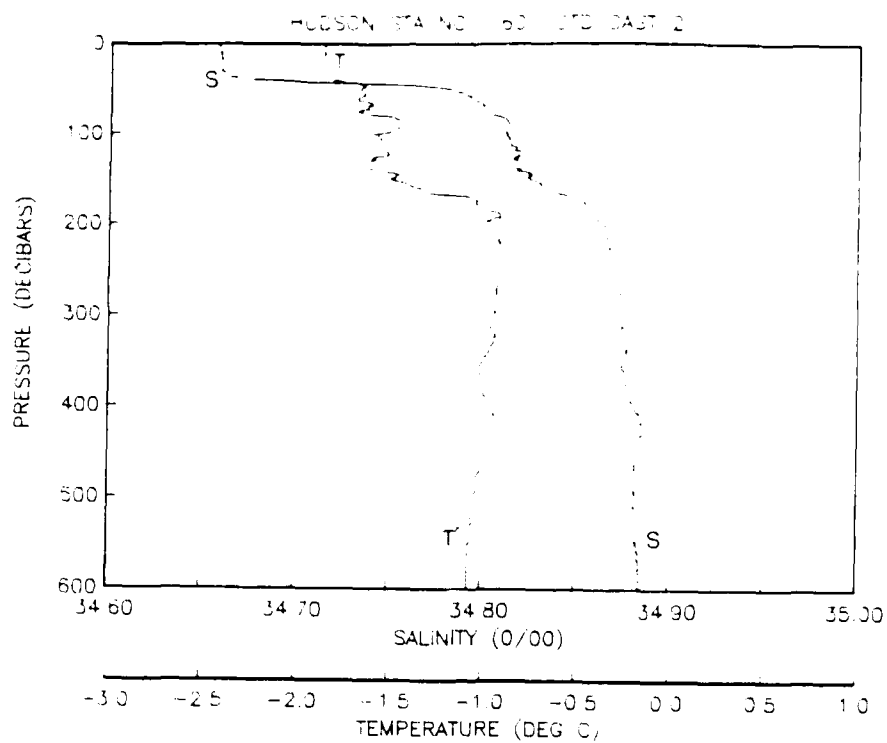


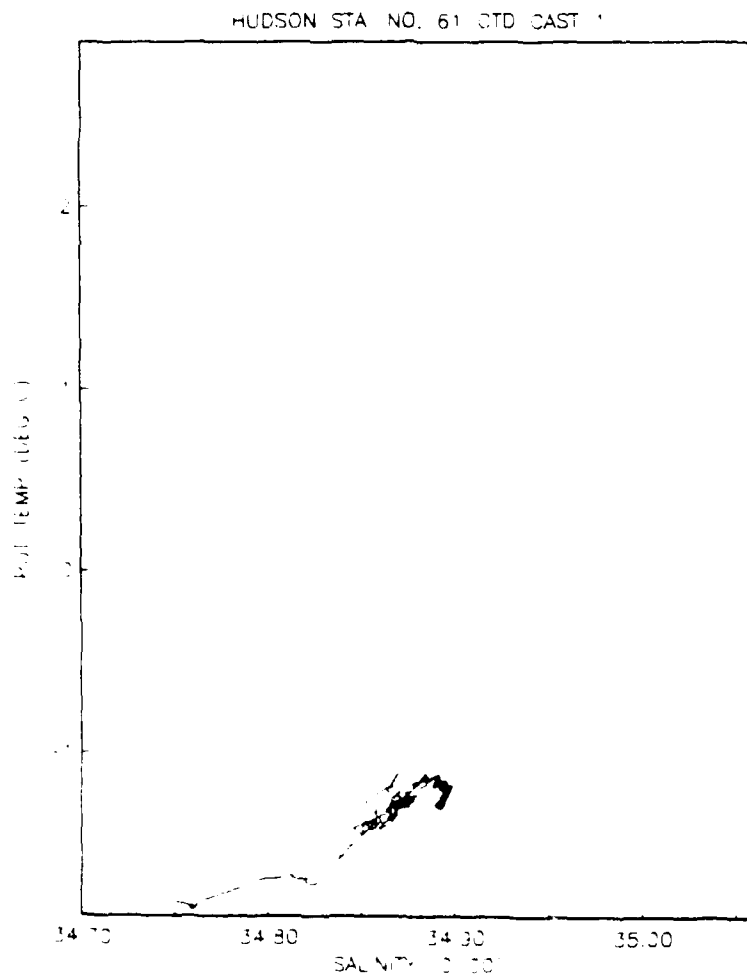
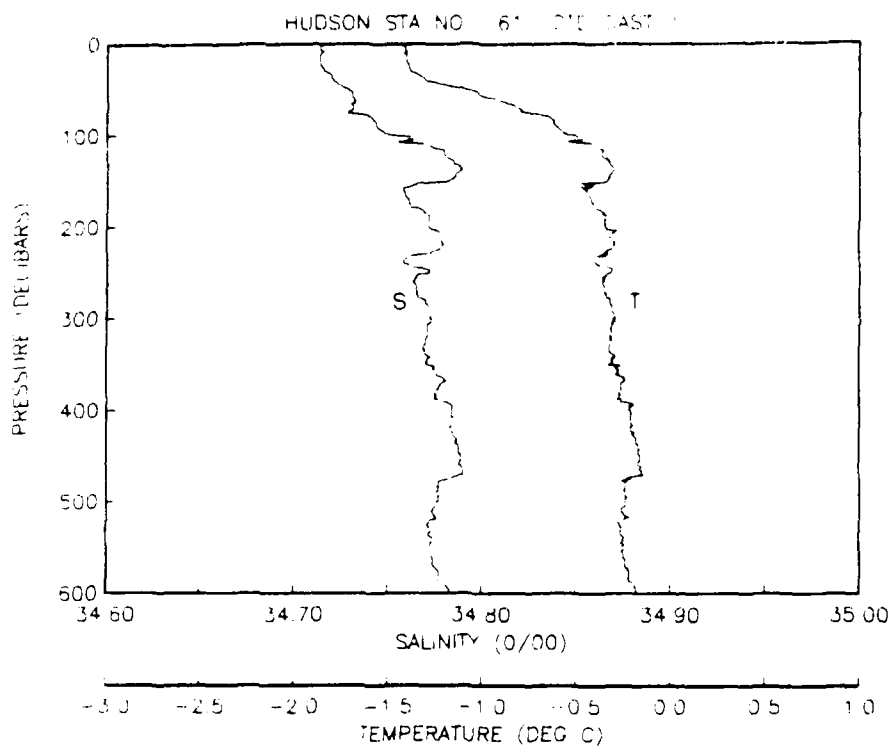


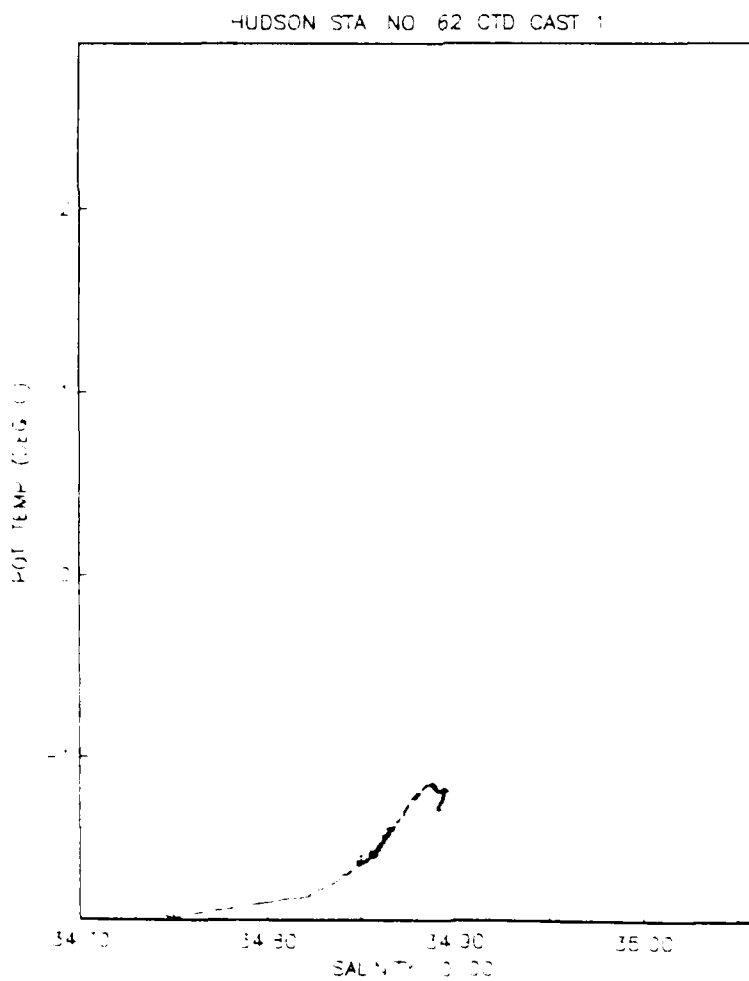
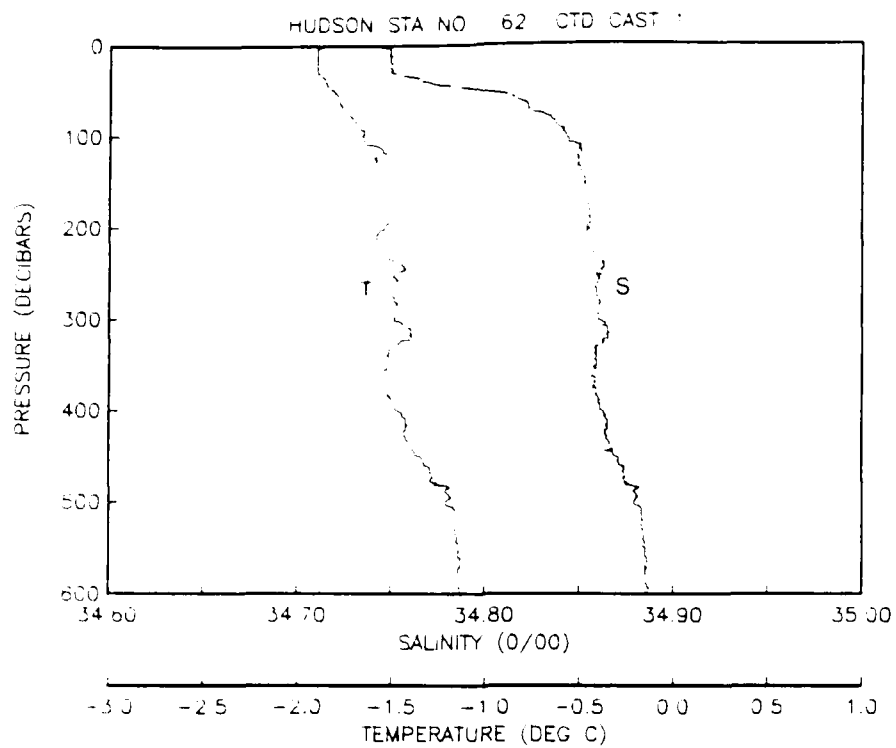


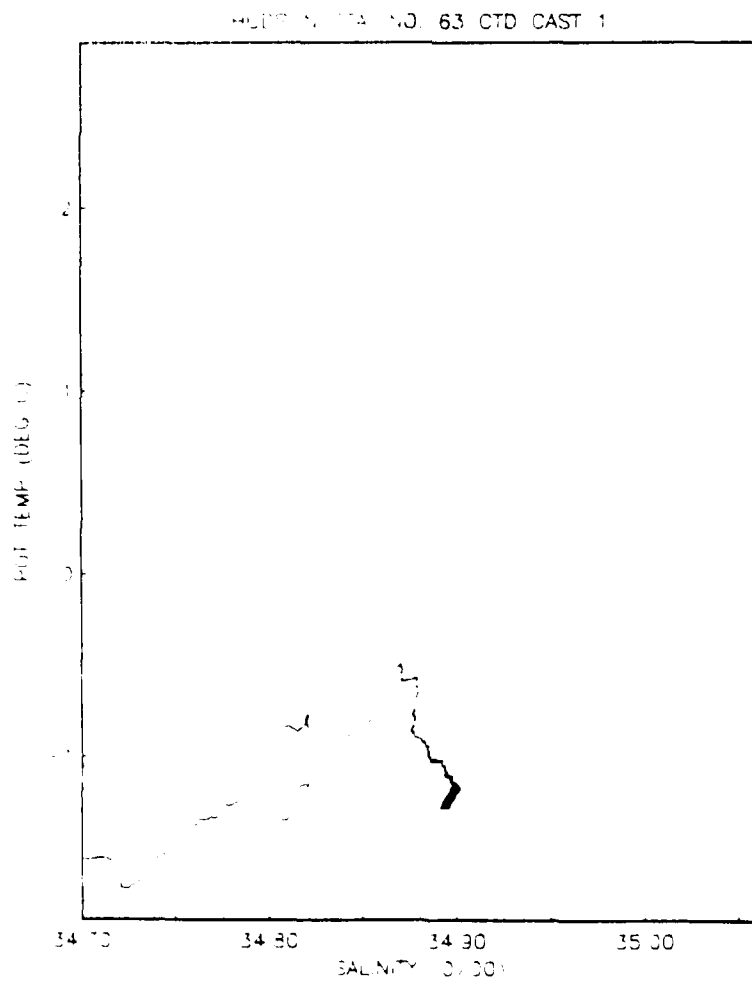
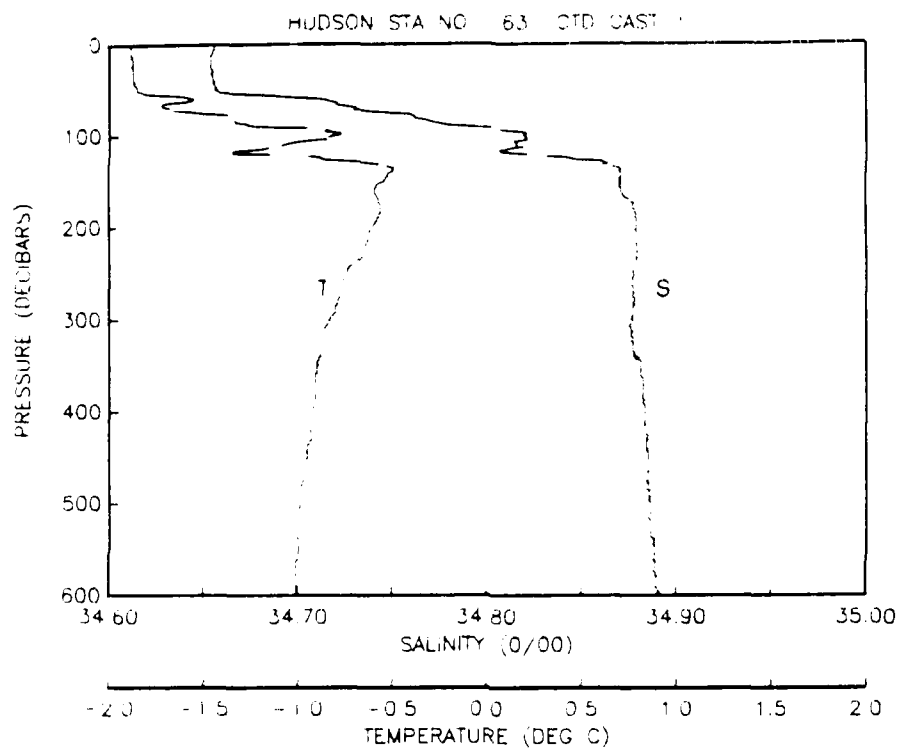


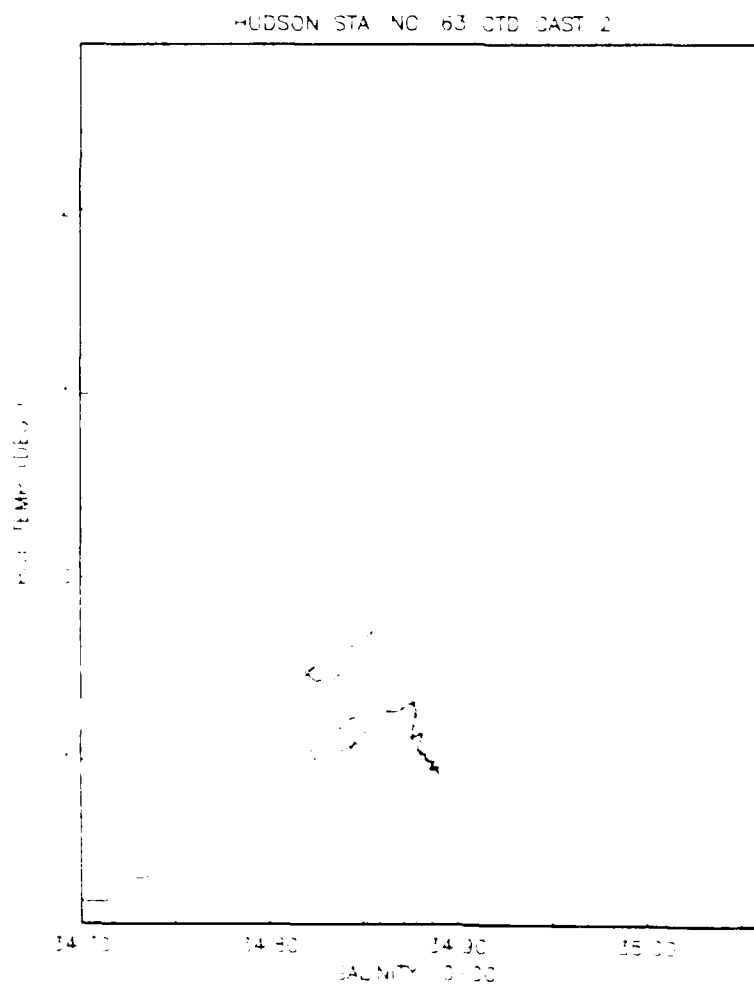
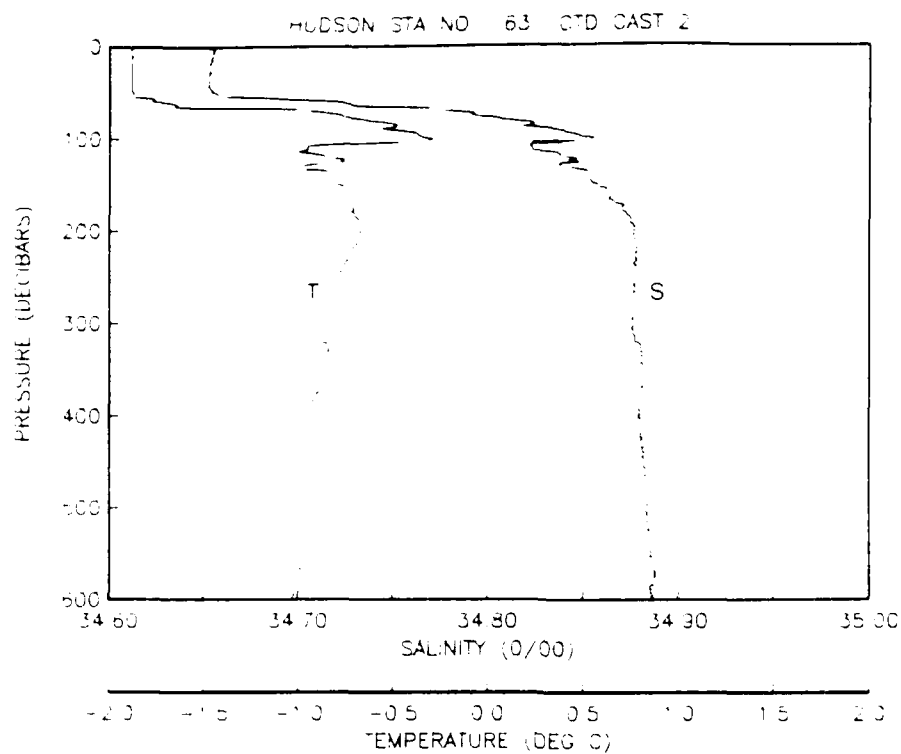


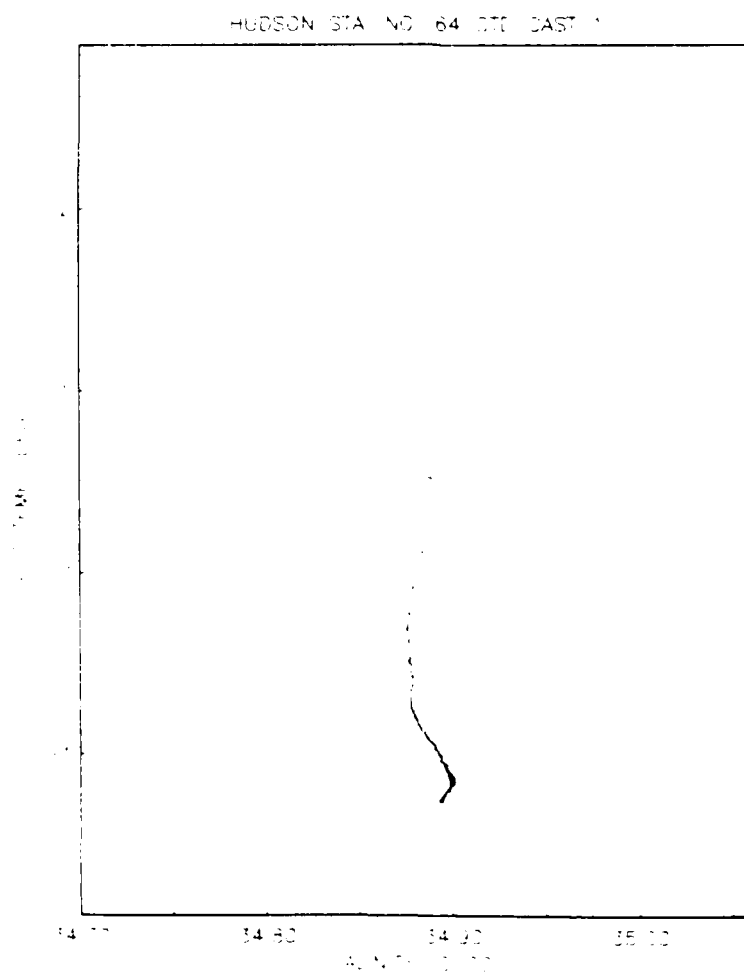
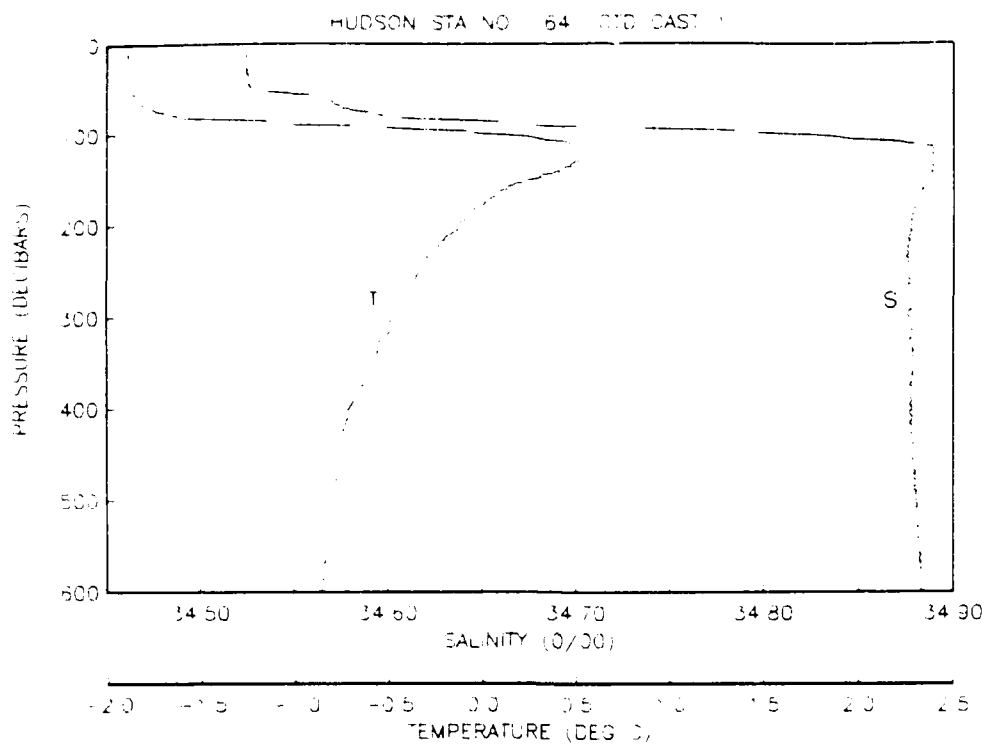


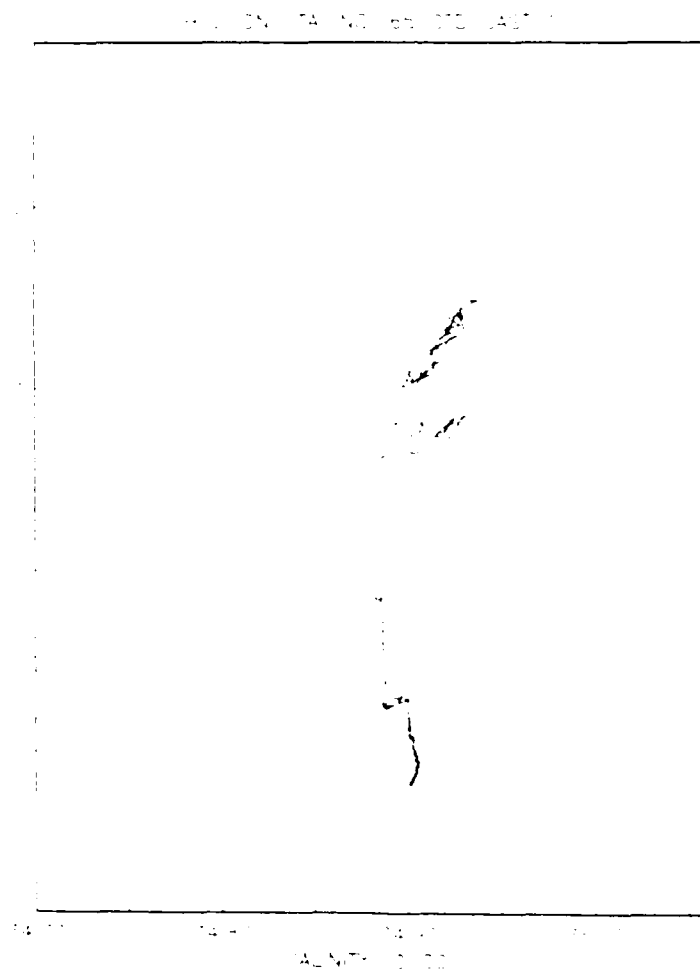
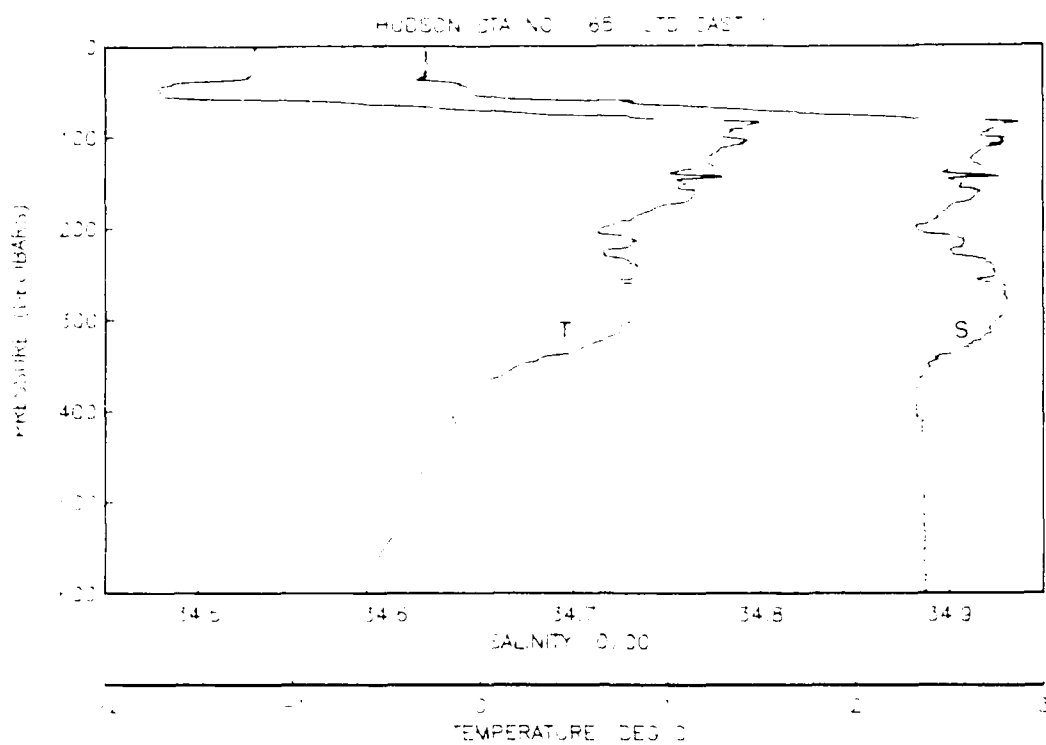




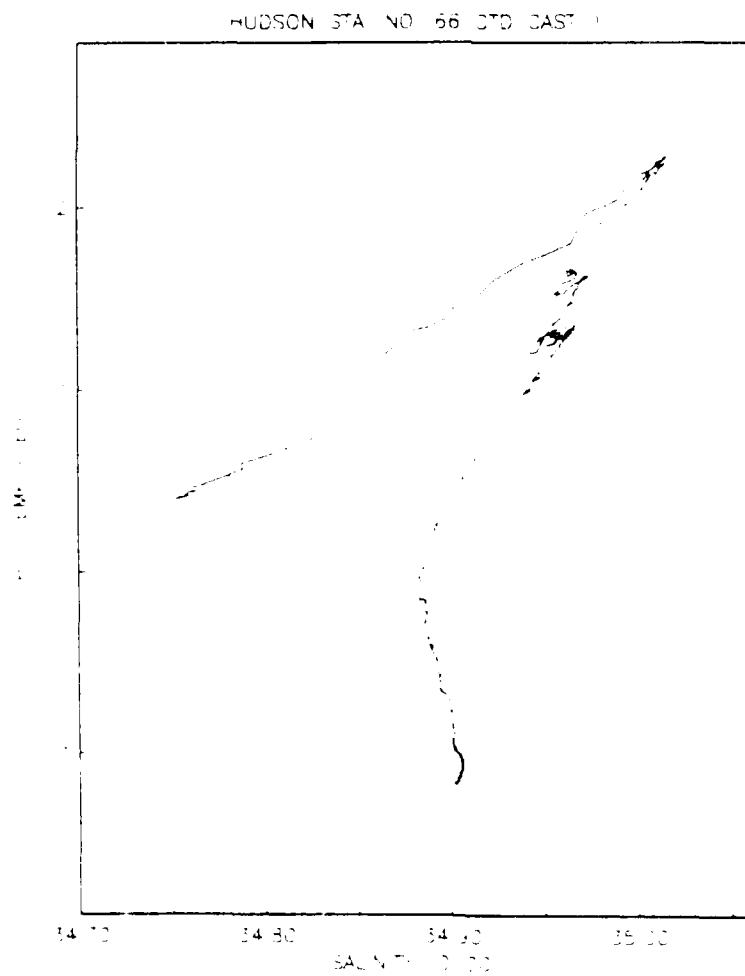
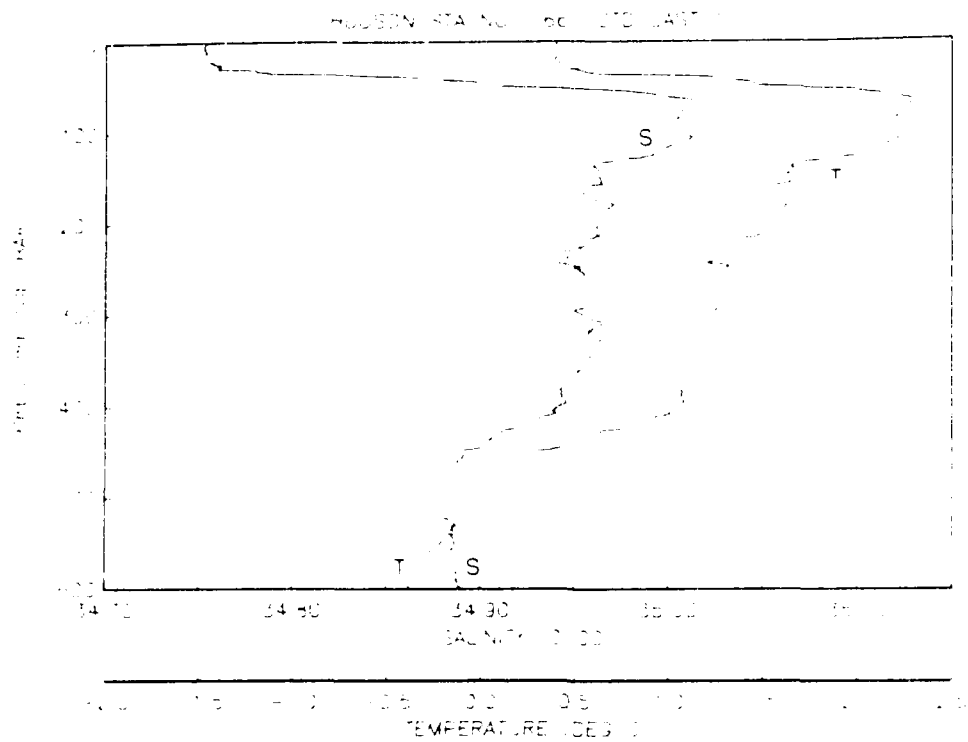


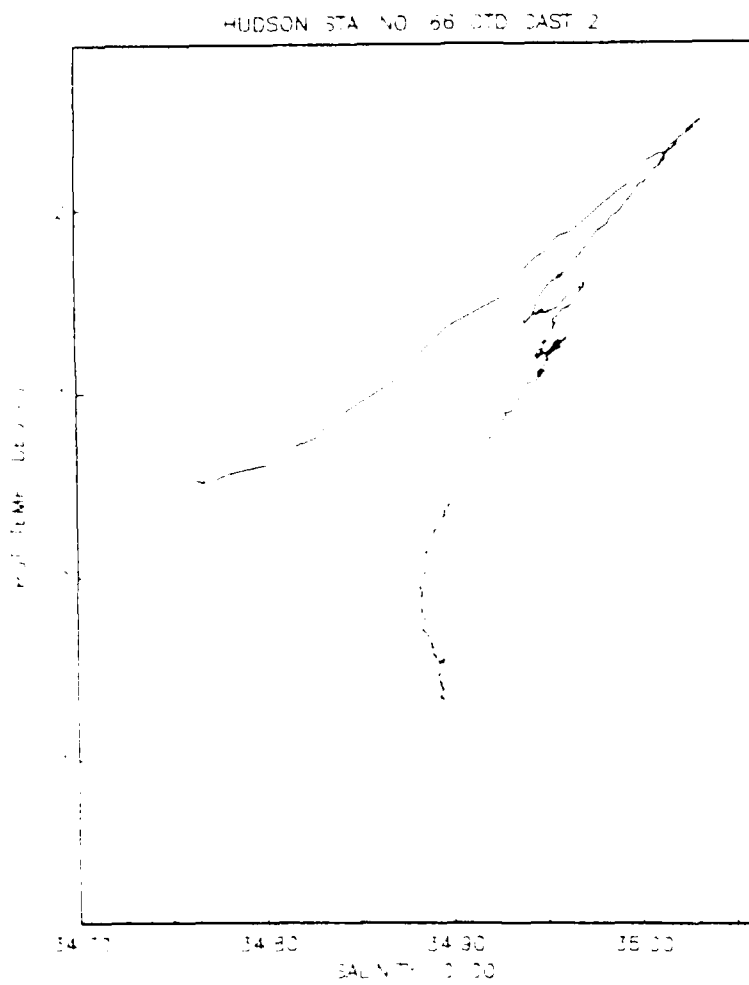
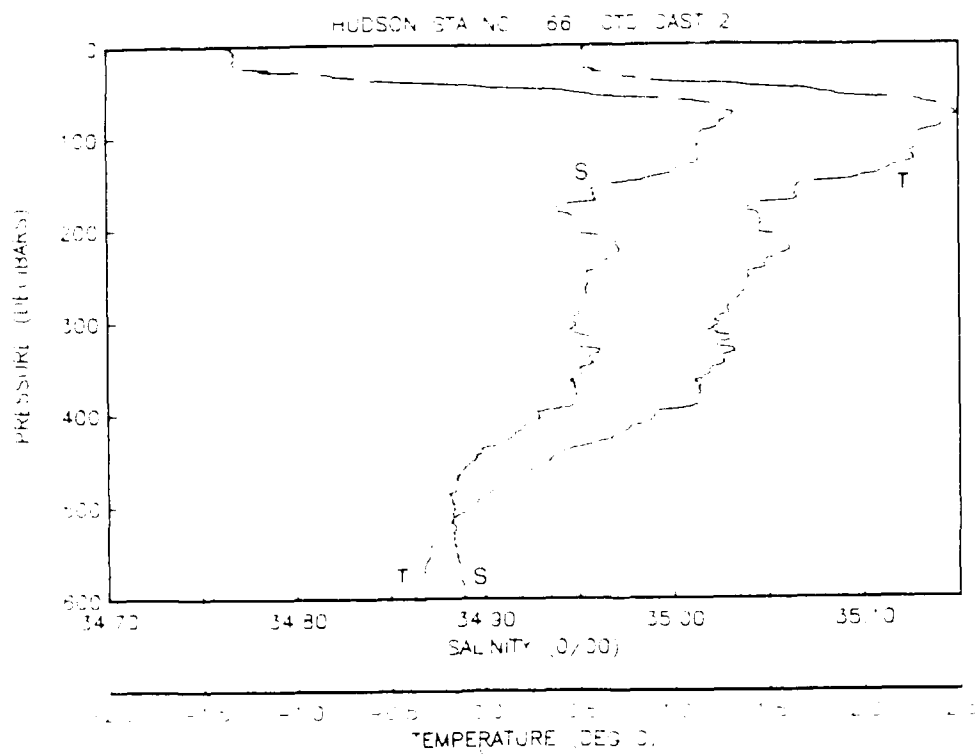












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VOLUME 2 CTD DATA PLOTS(U) SCRIPPS INSTITUTION OF  
OCEANOGRAPHY LA JOLLA CA JUN 84 SIO-REF-84-14-VOL-2  
UNCLASSIFIED N0014-80-C-0440 F/G 8/10

CSS HUDSON CRUISE 82-001 14 FEBRUARY - 6 APRIL 1982  
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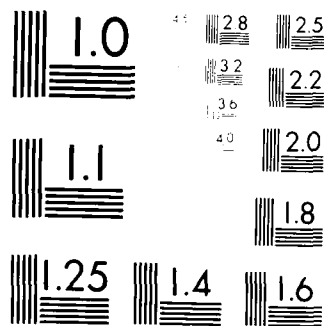
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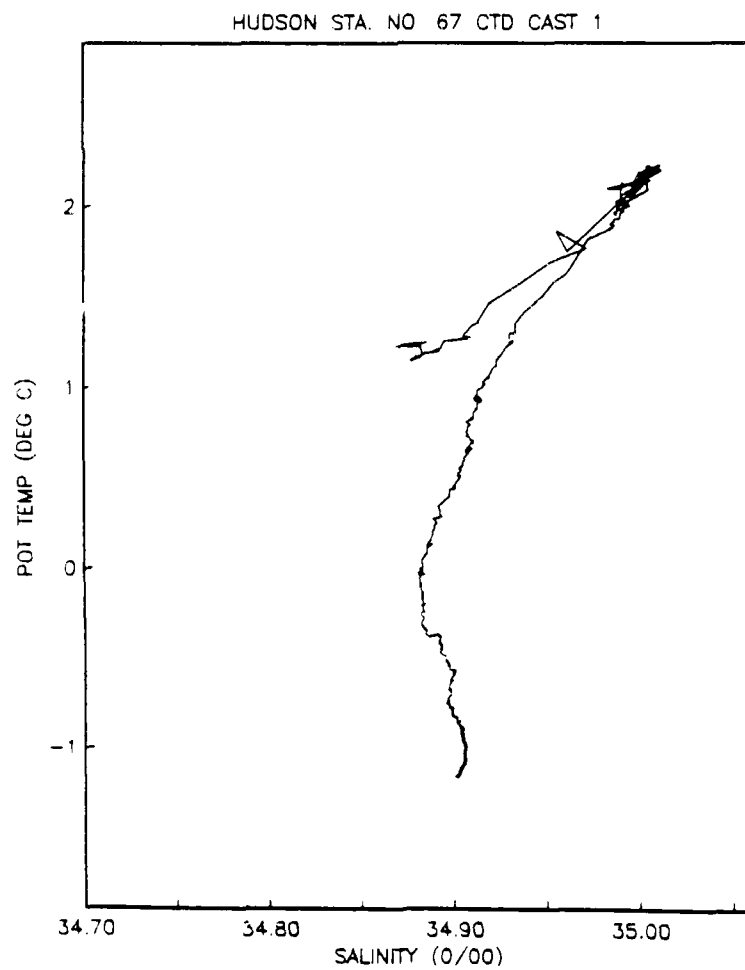
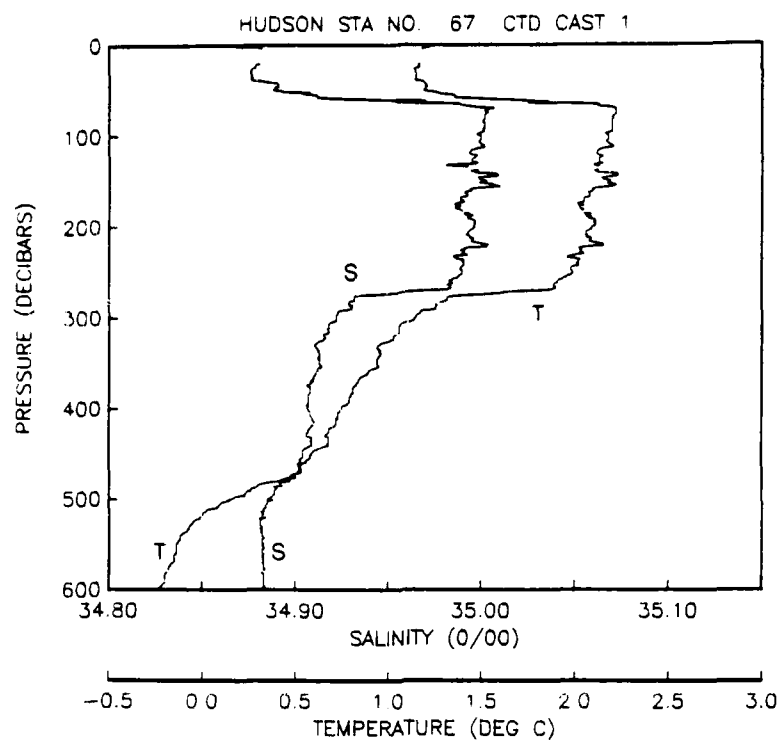
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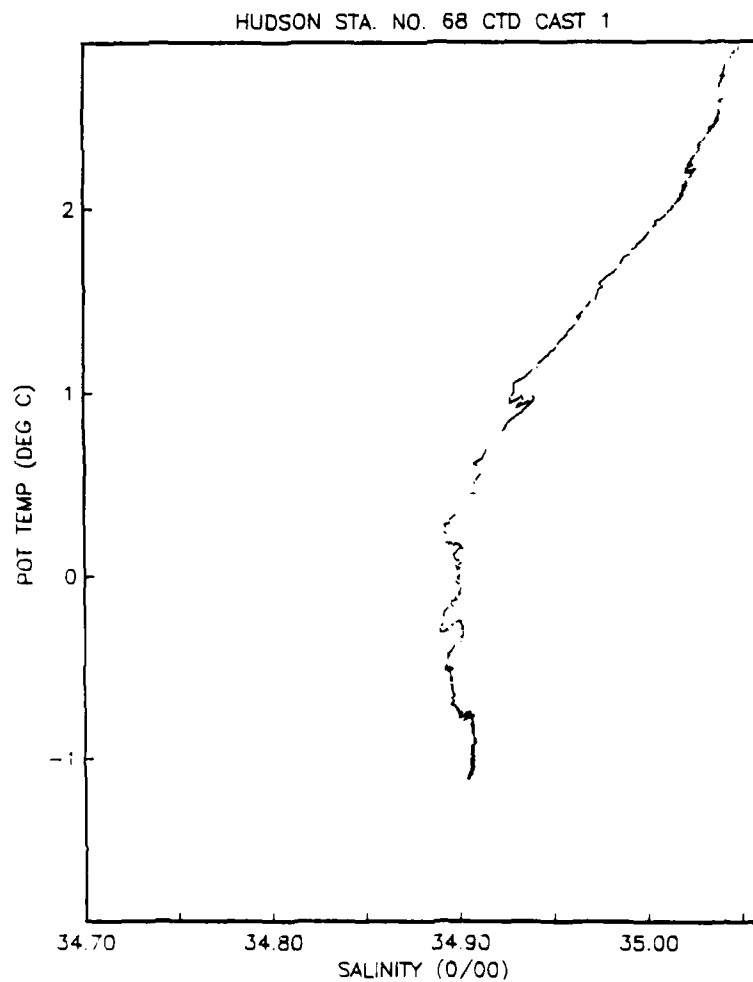
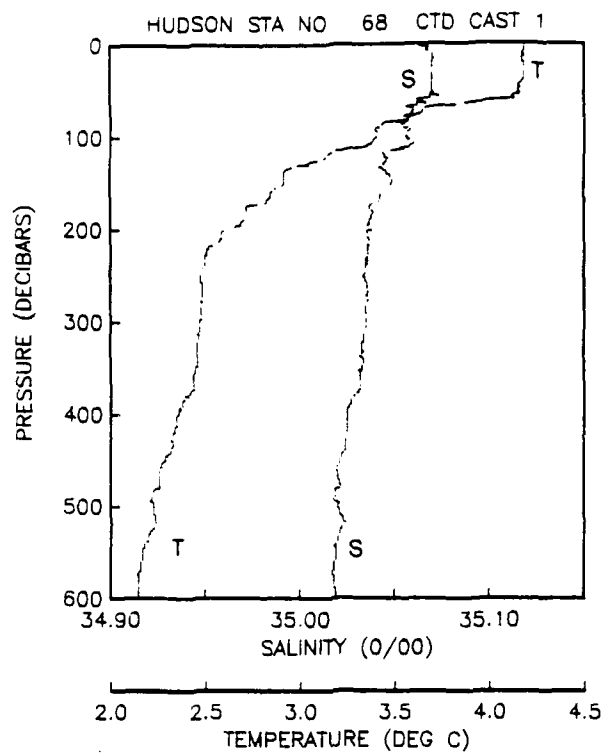
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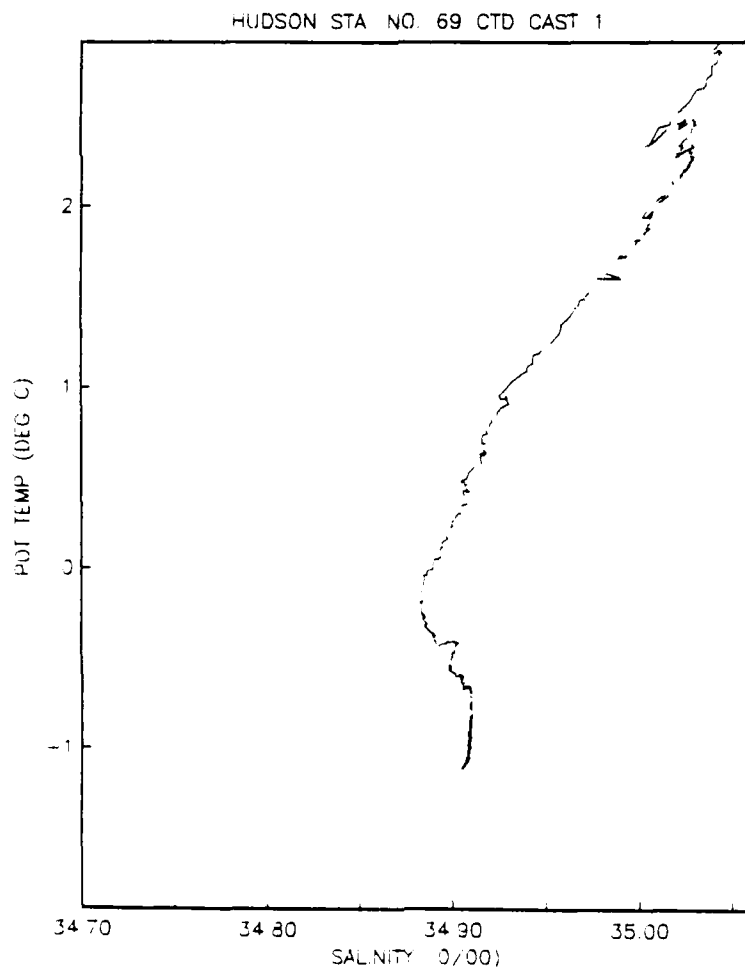
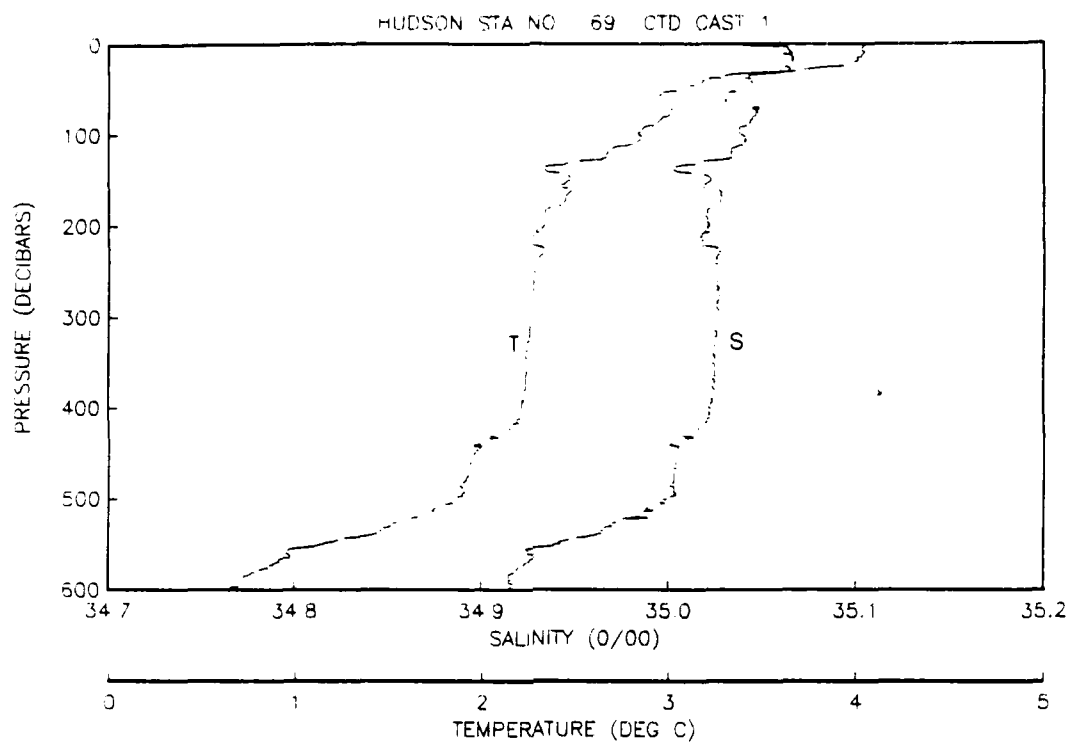
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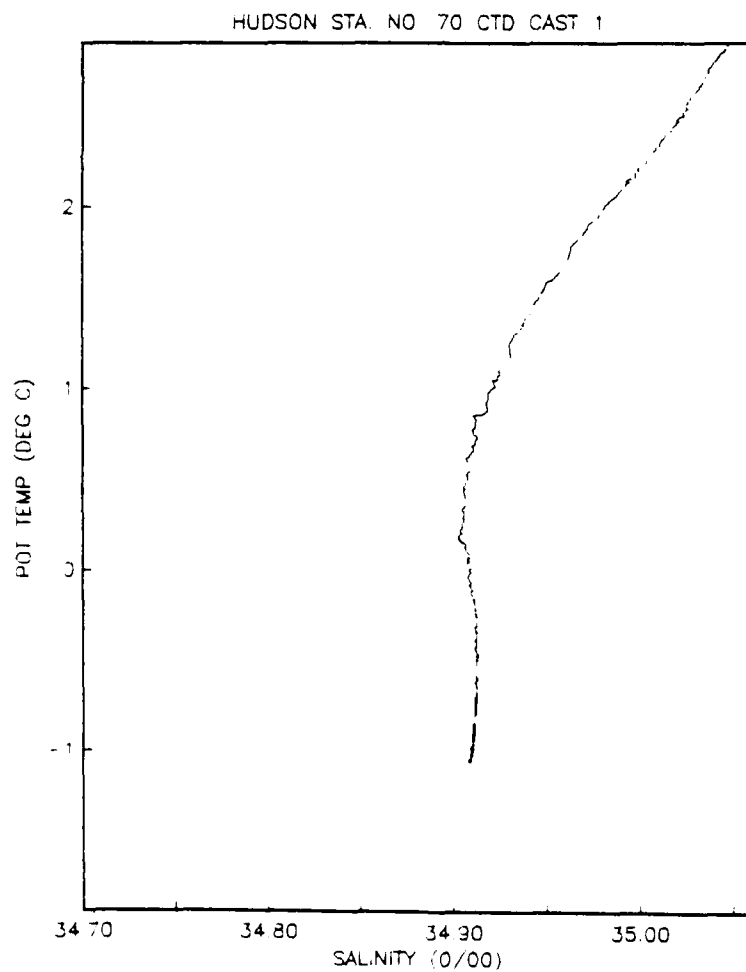
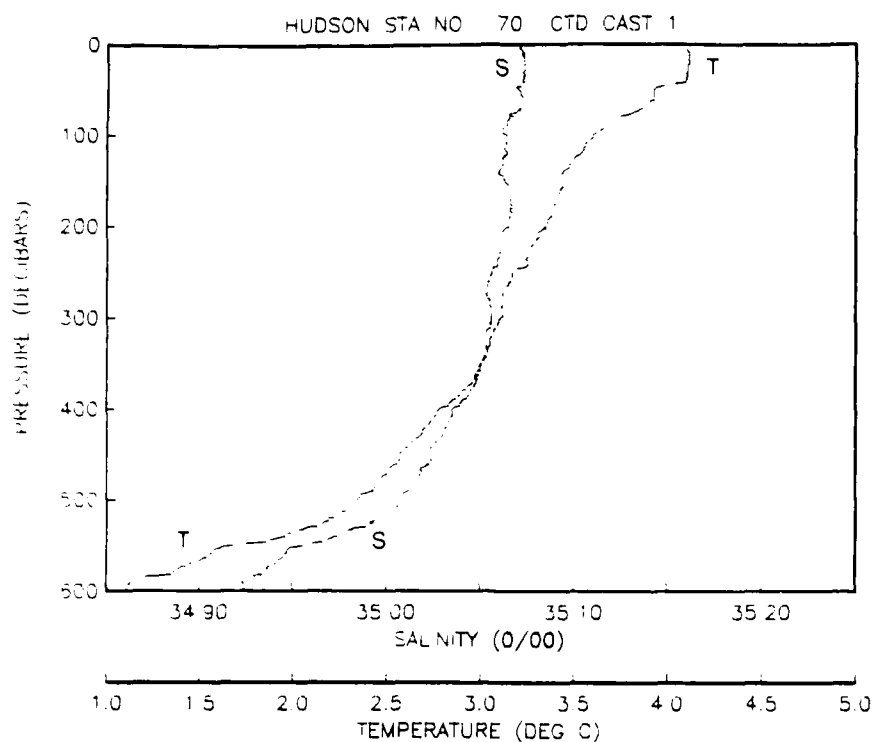


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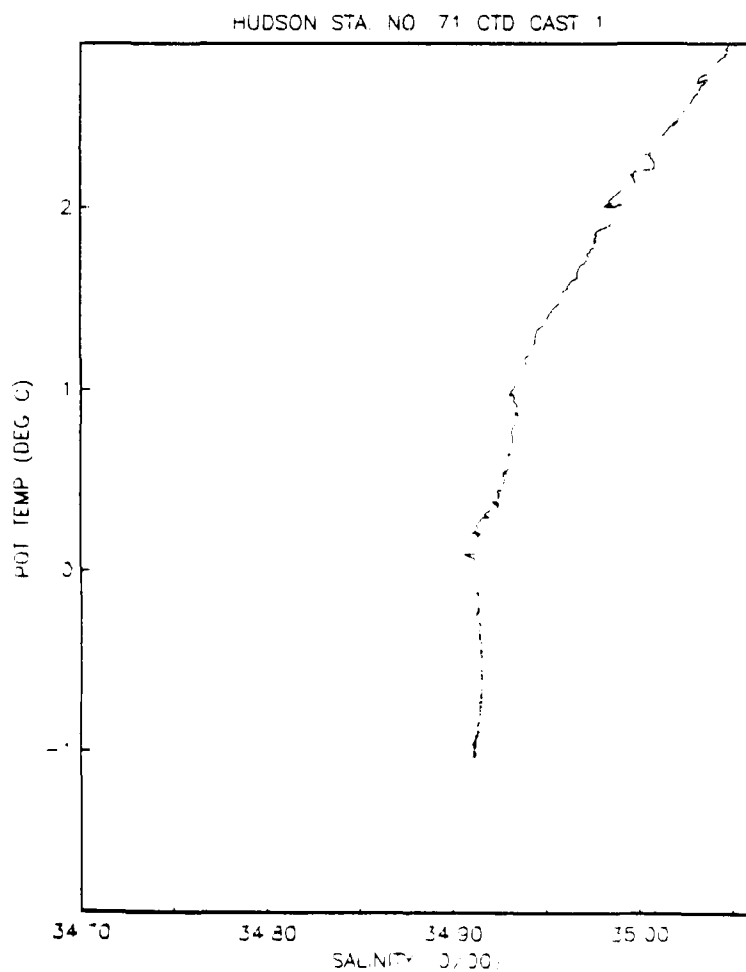
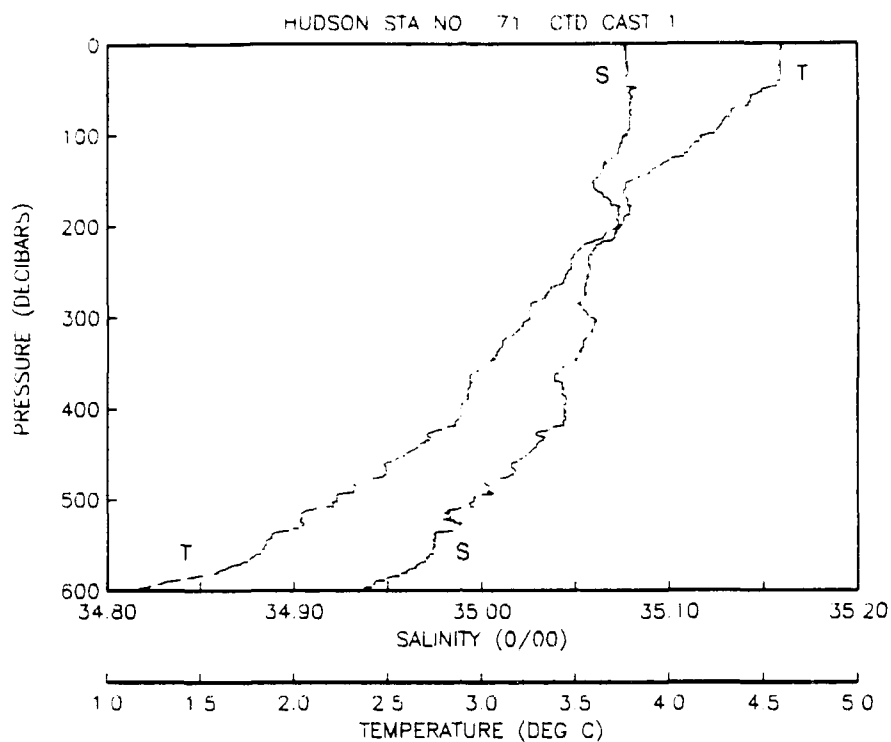


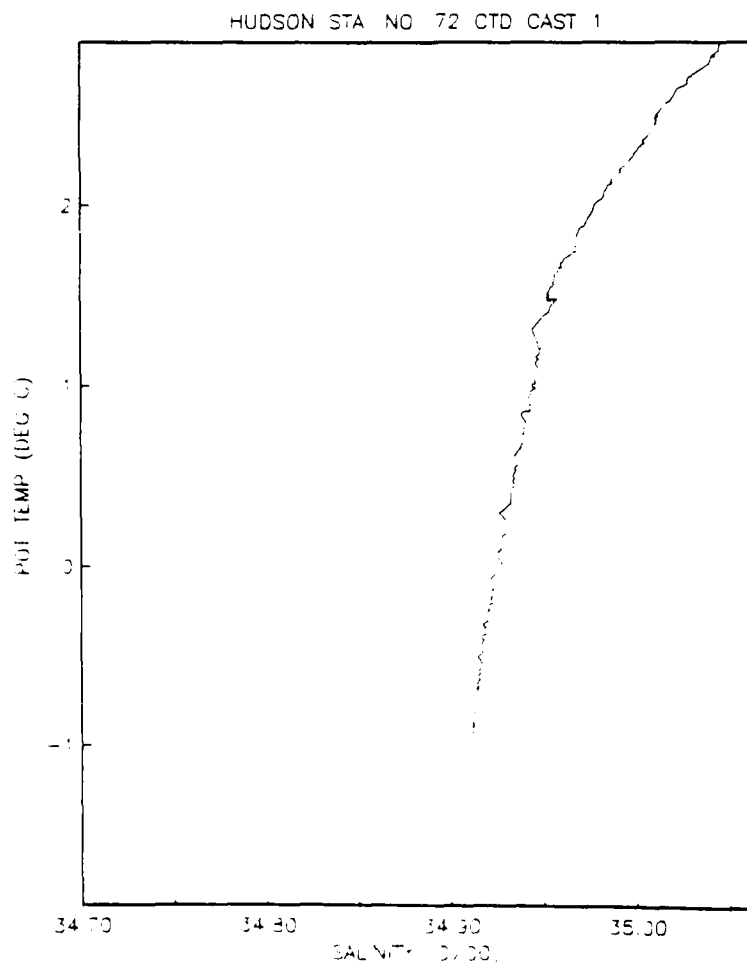
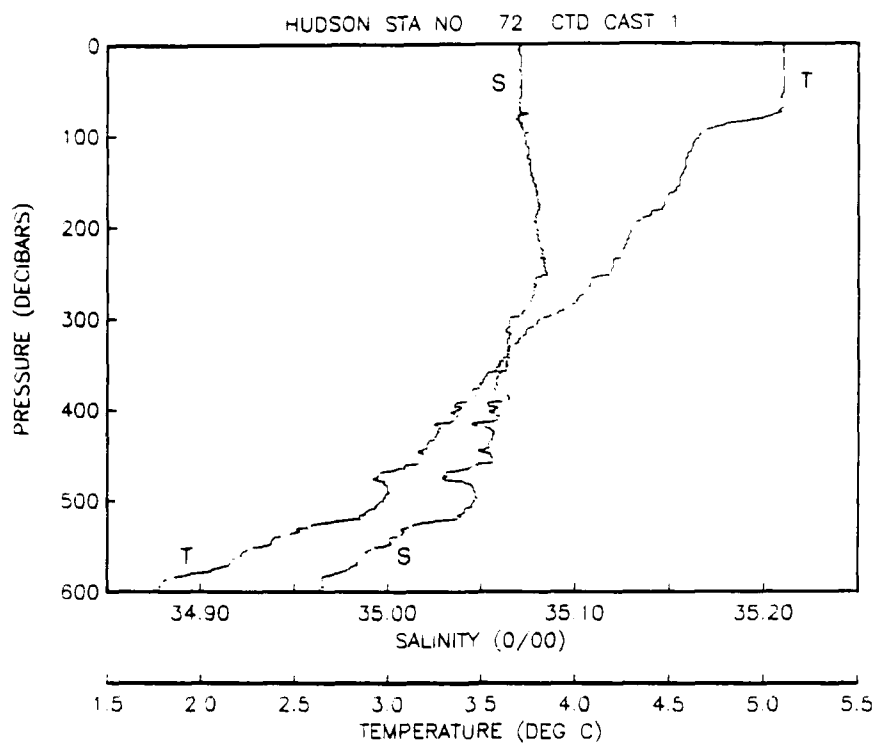


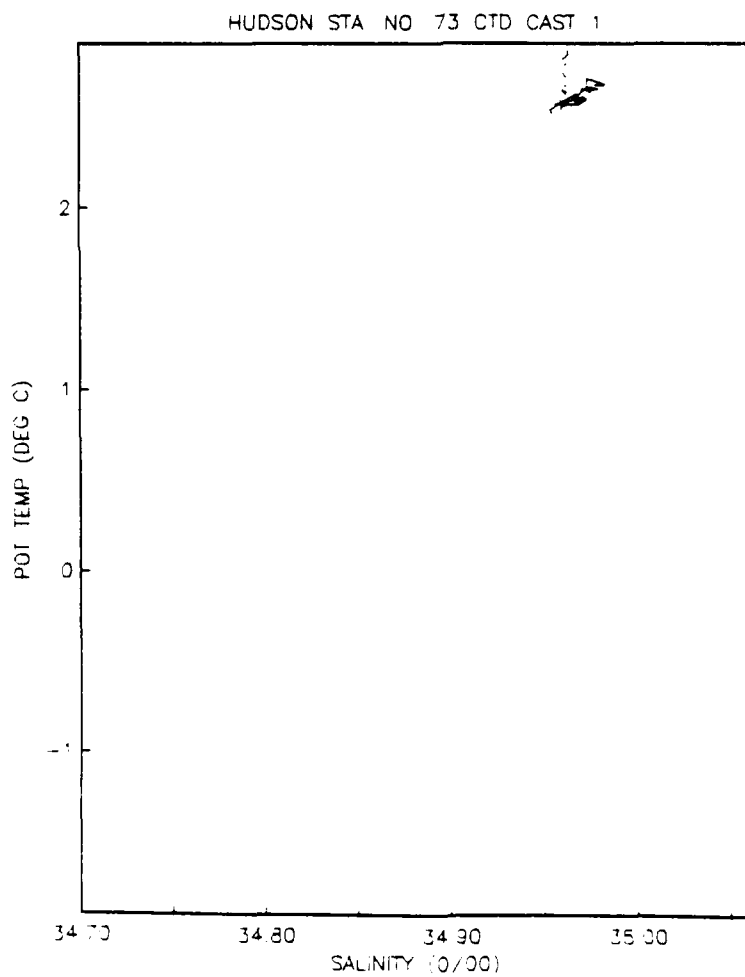
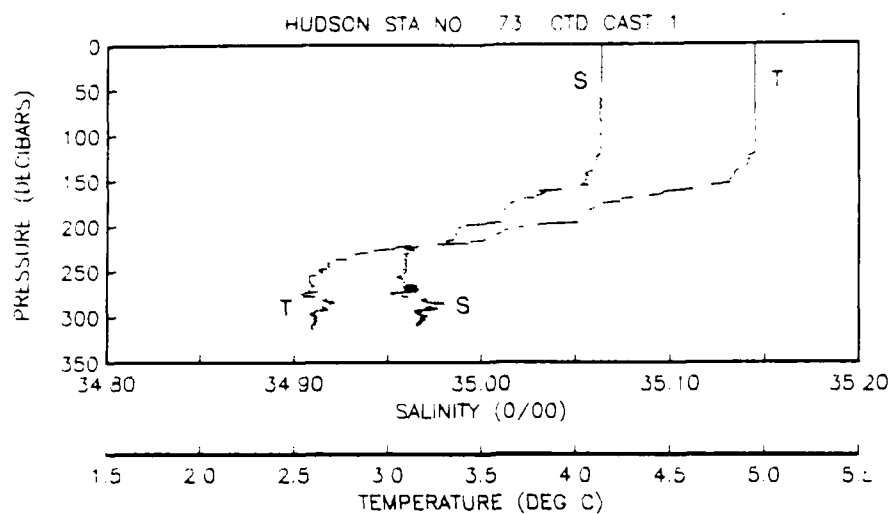


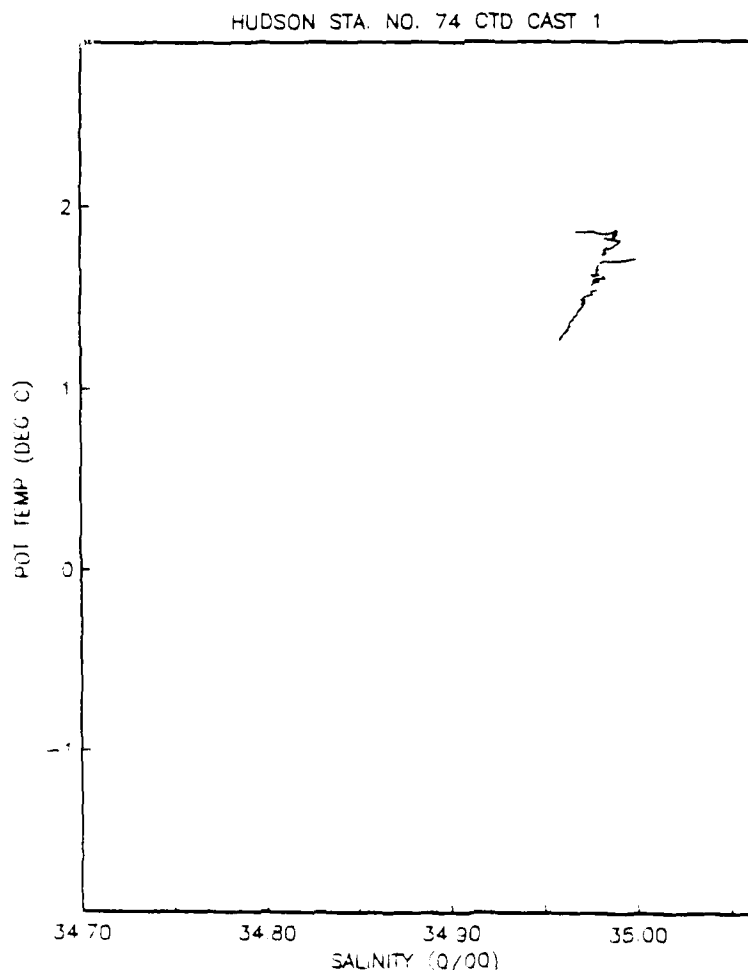
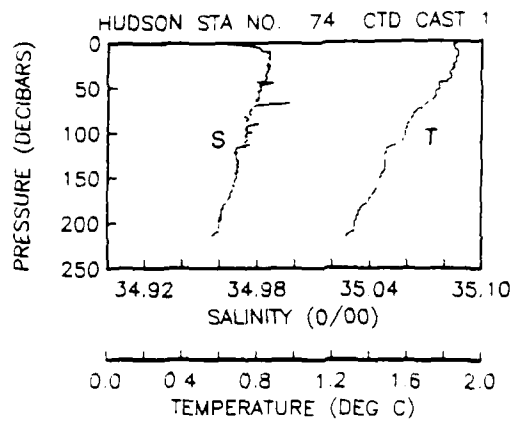


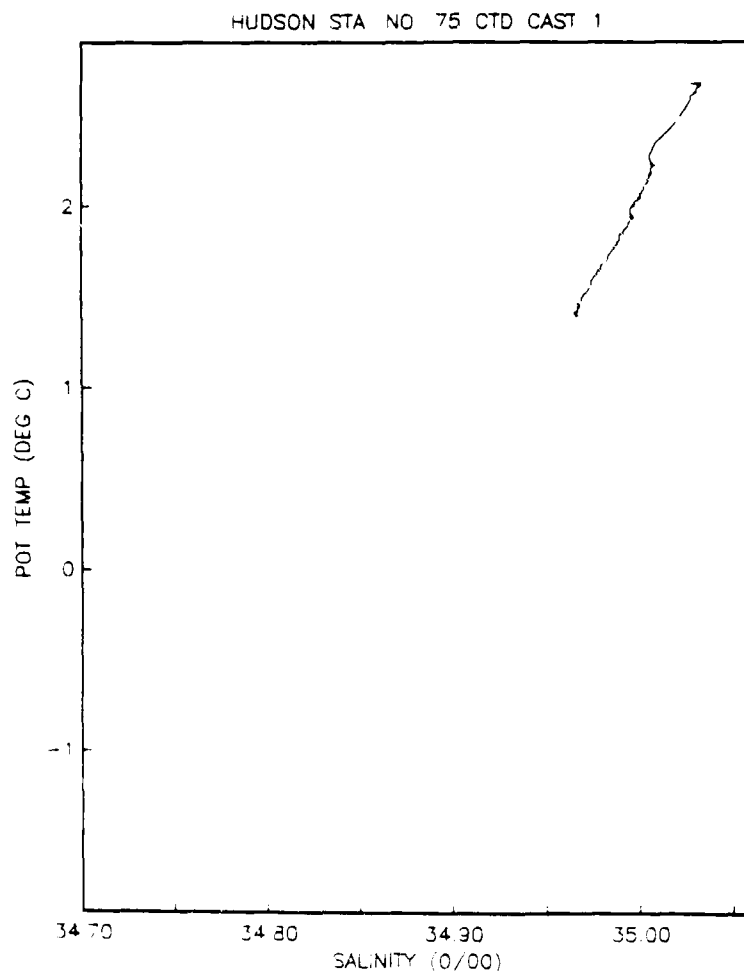
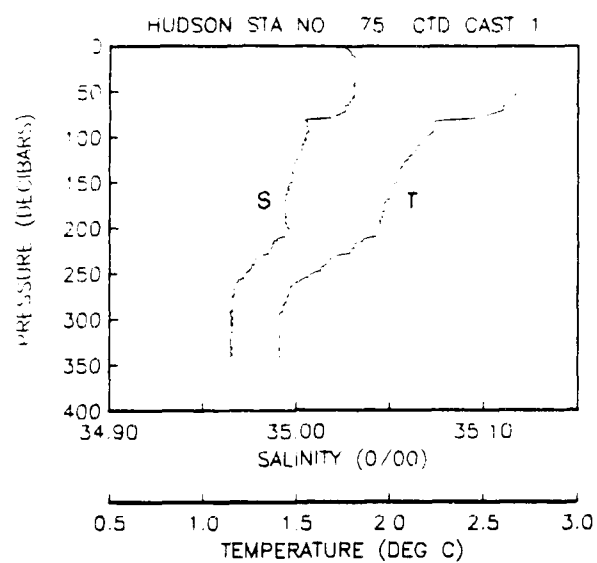


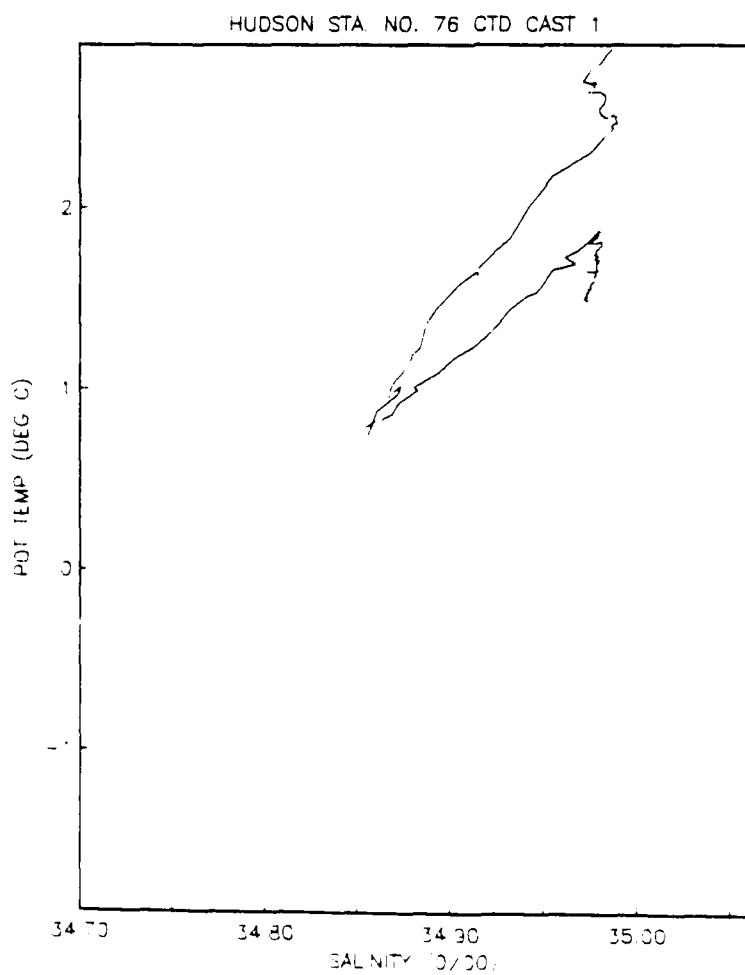
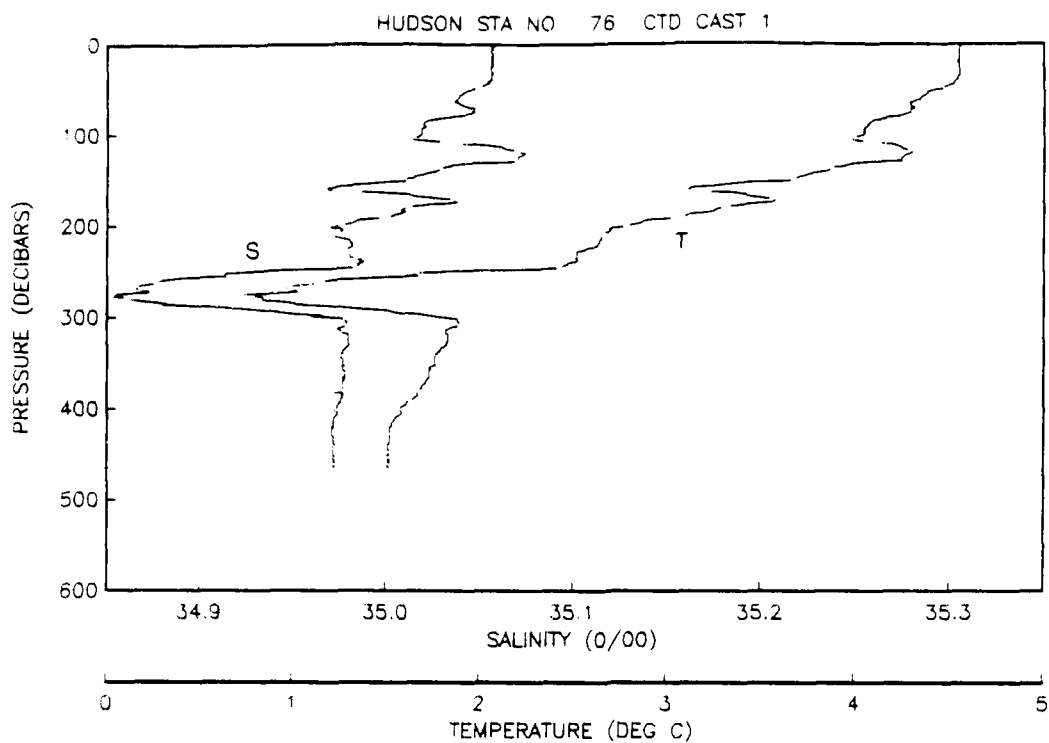


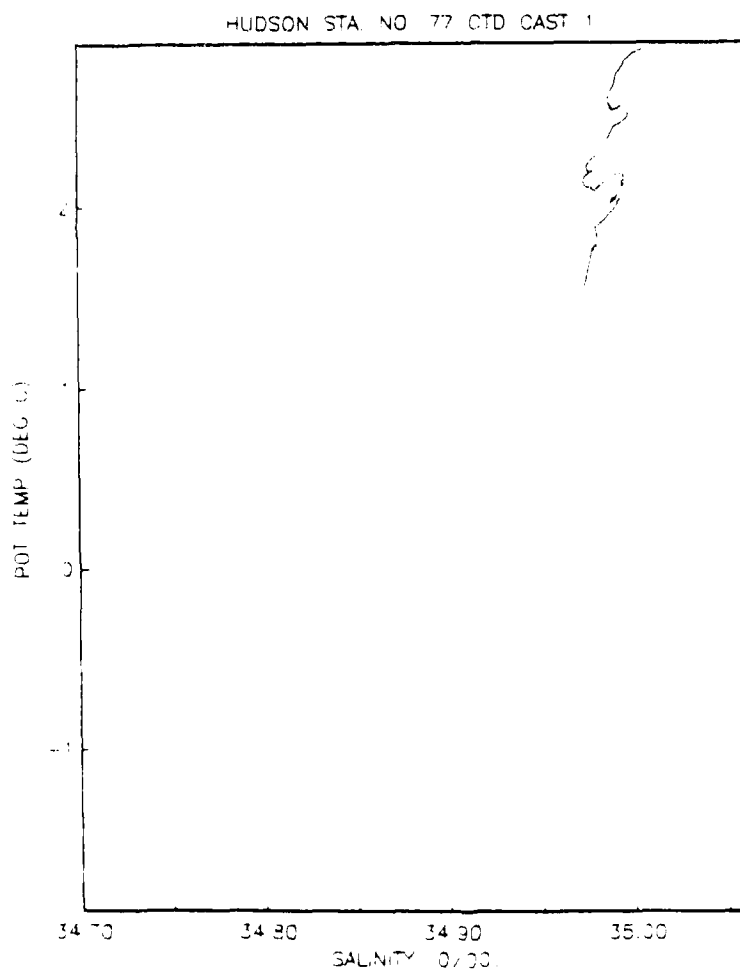
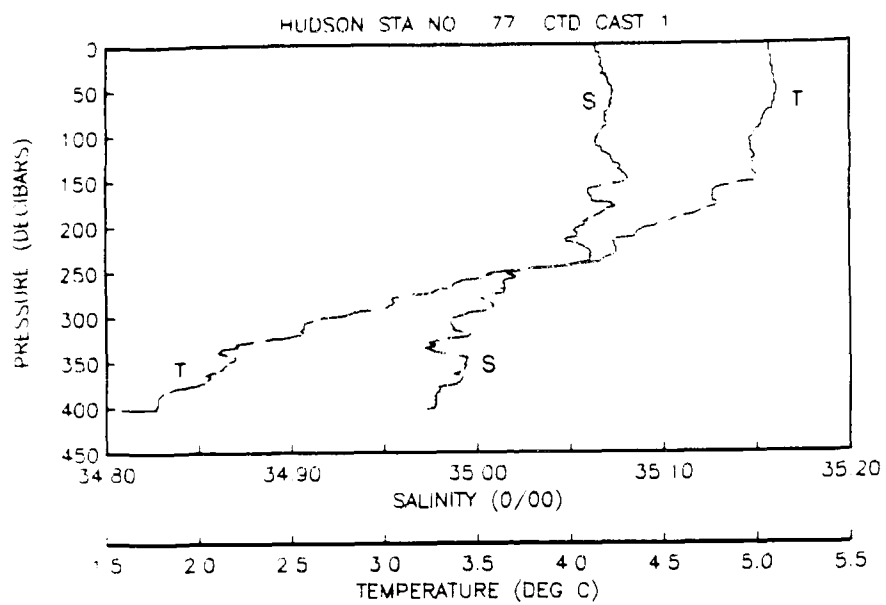


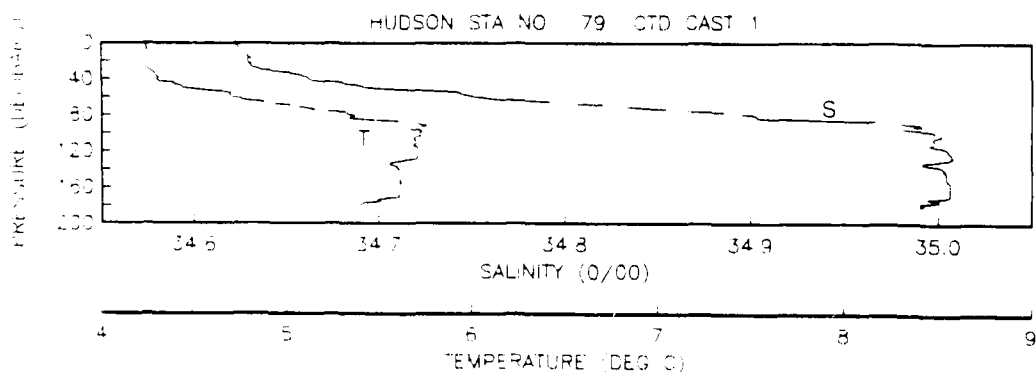
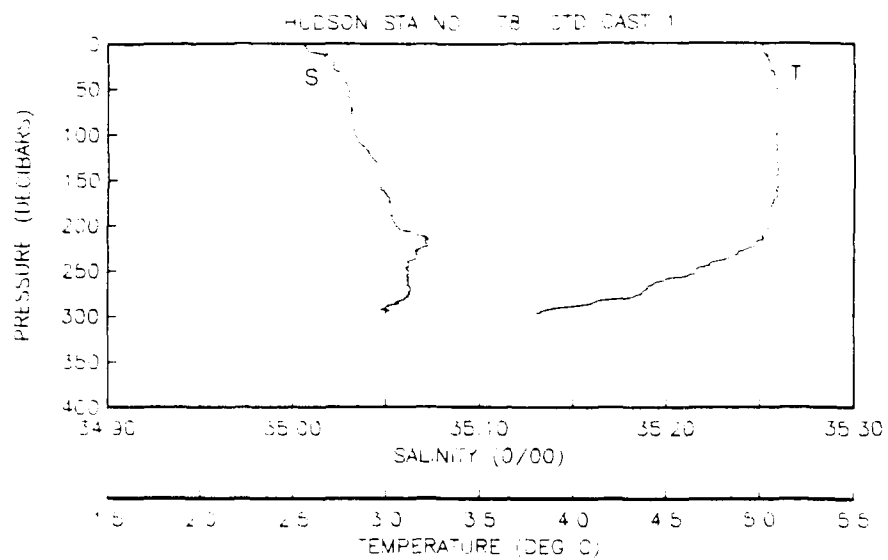




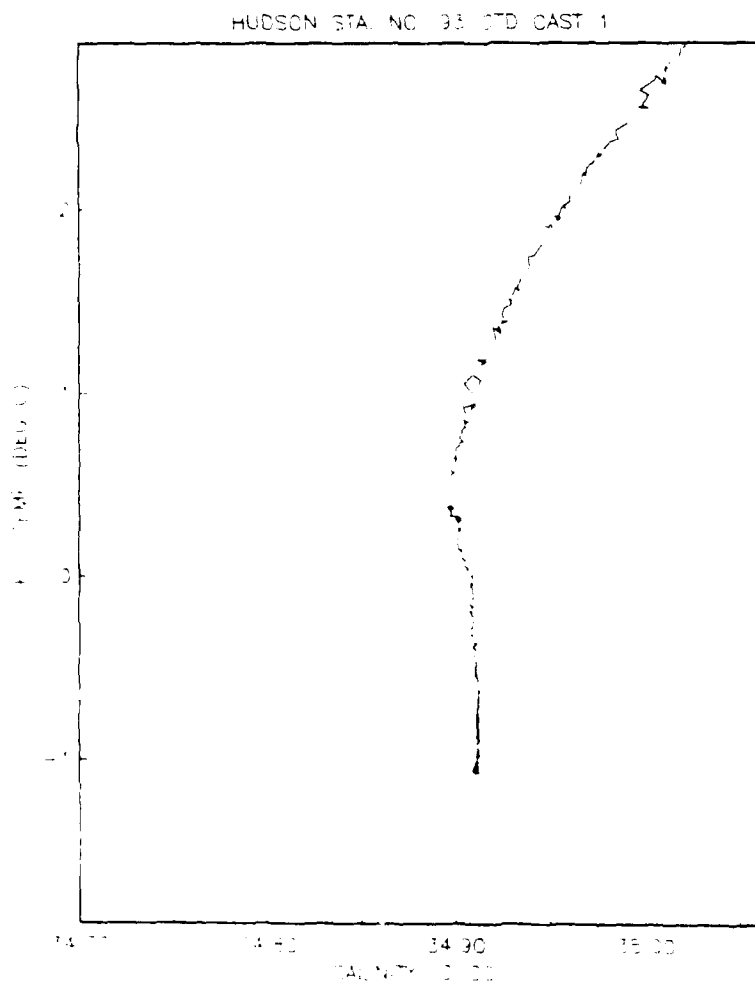
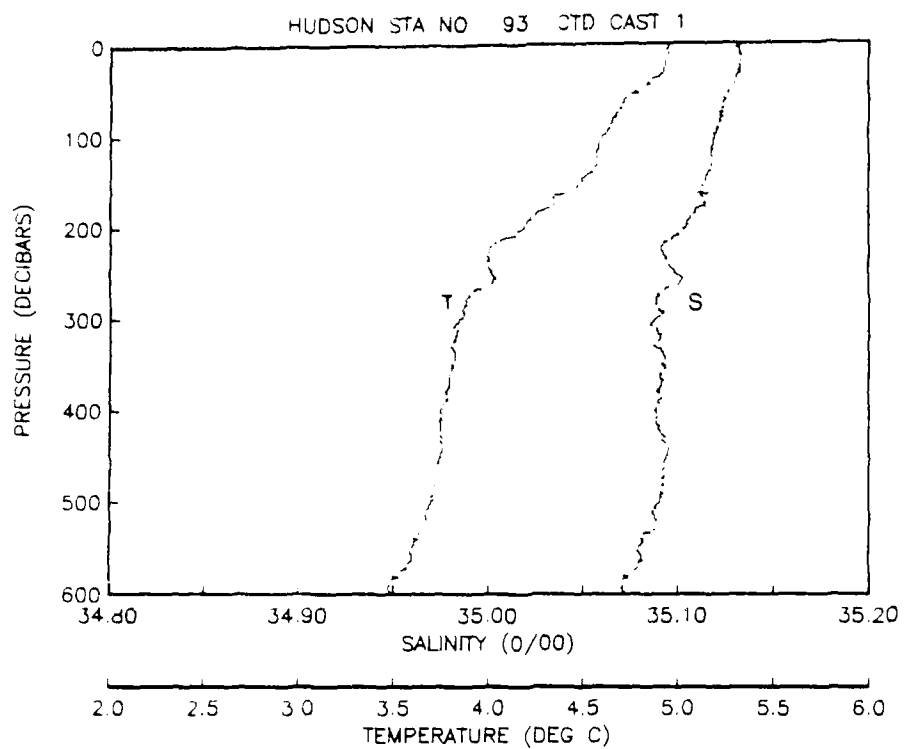


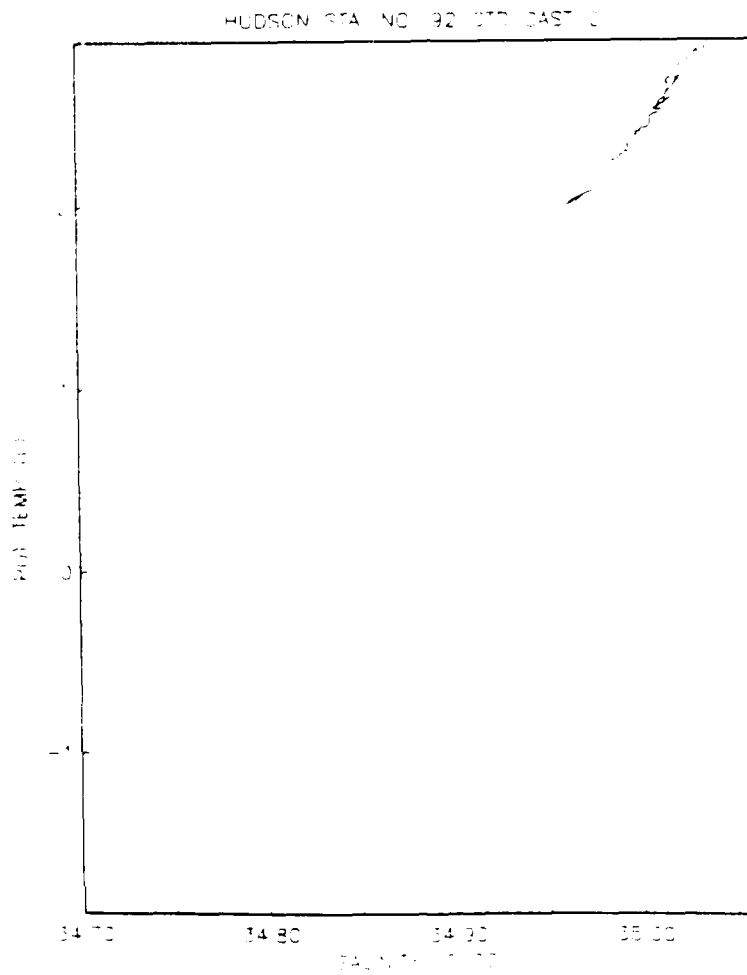
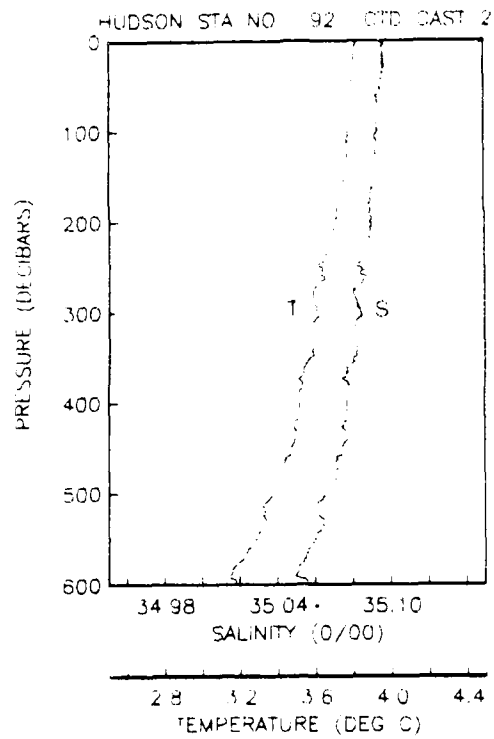


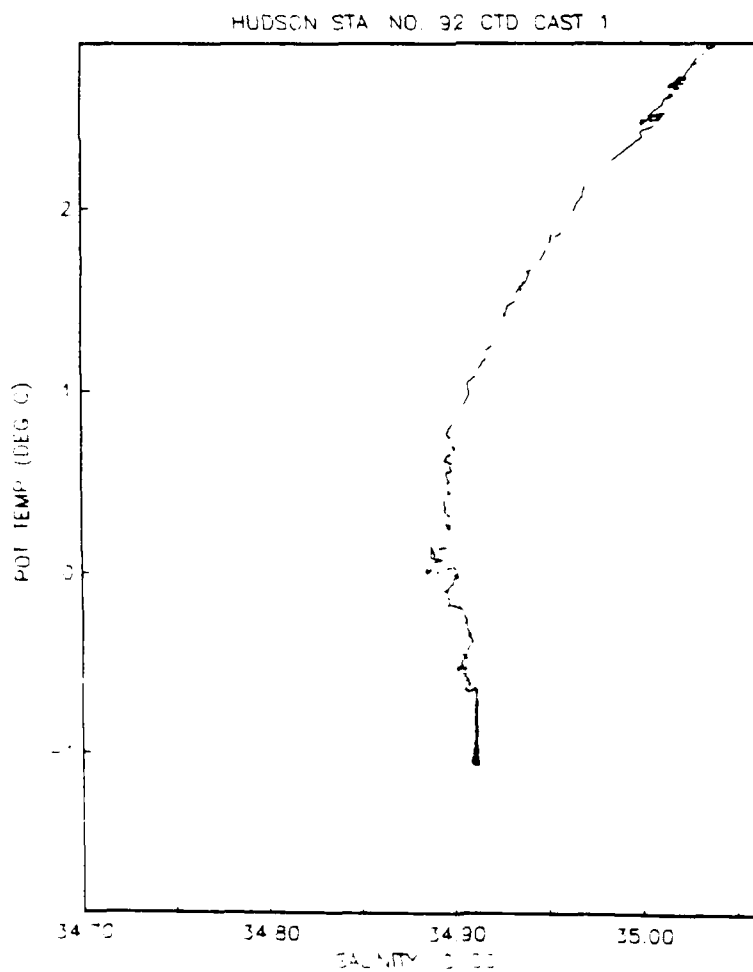
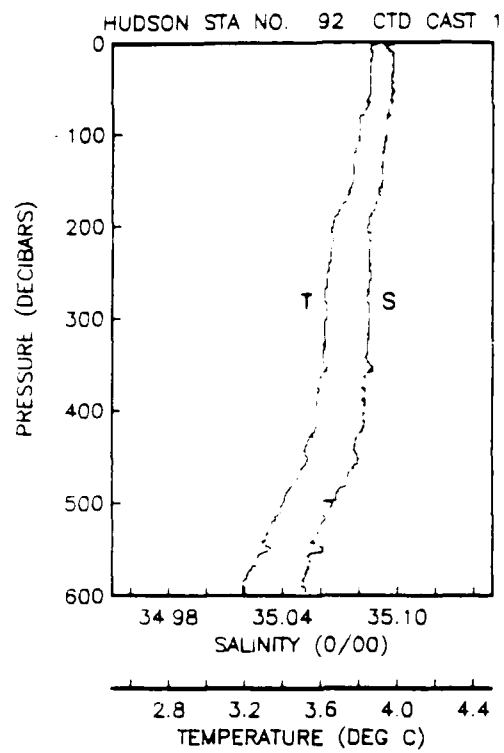


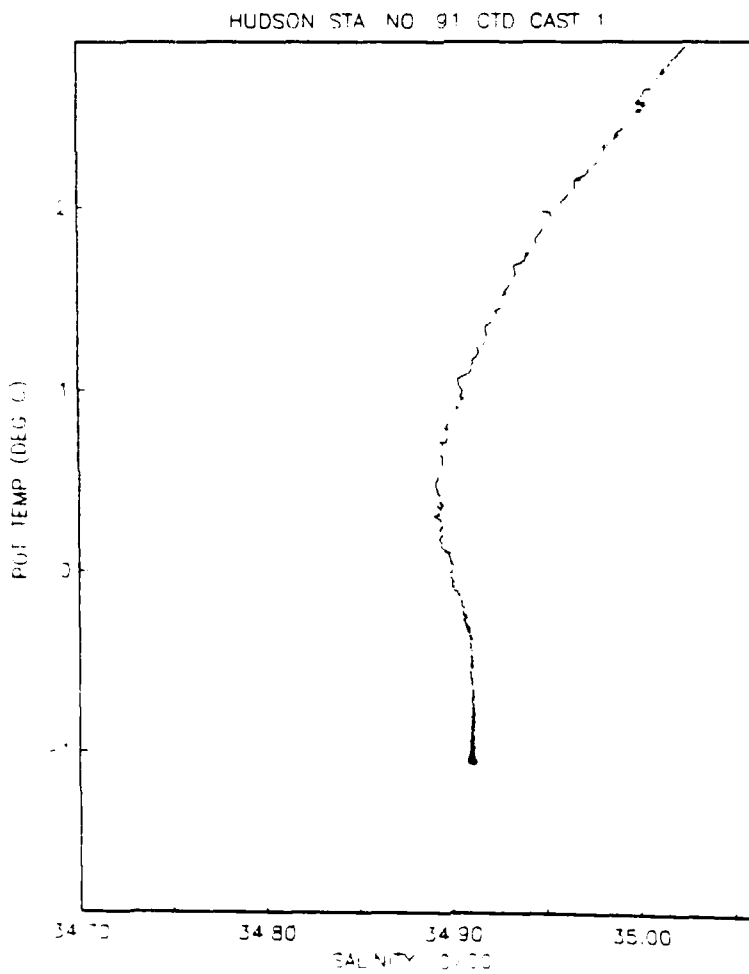
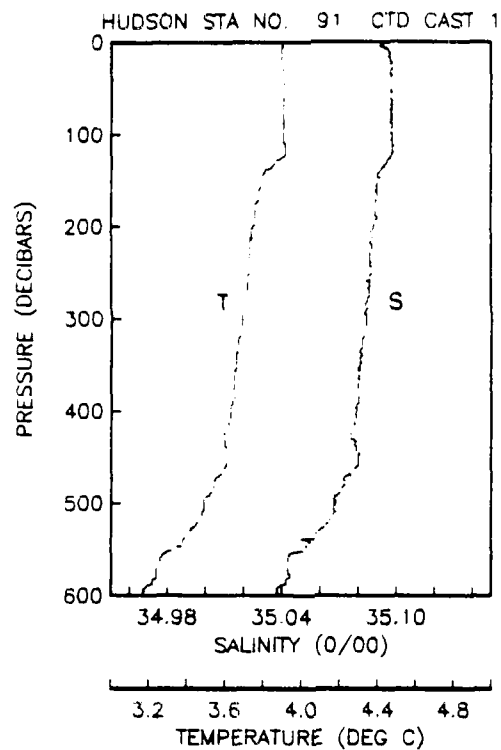


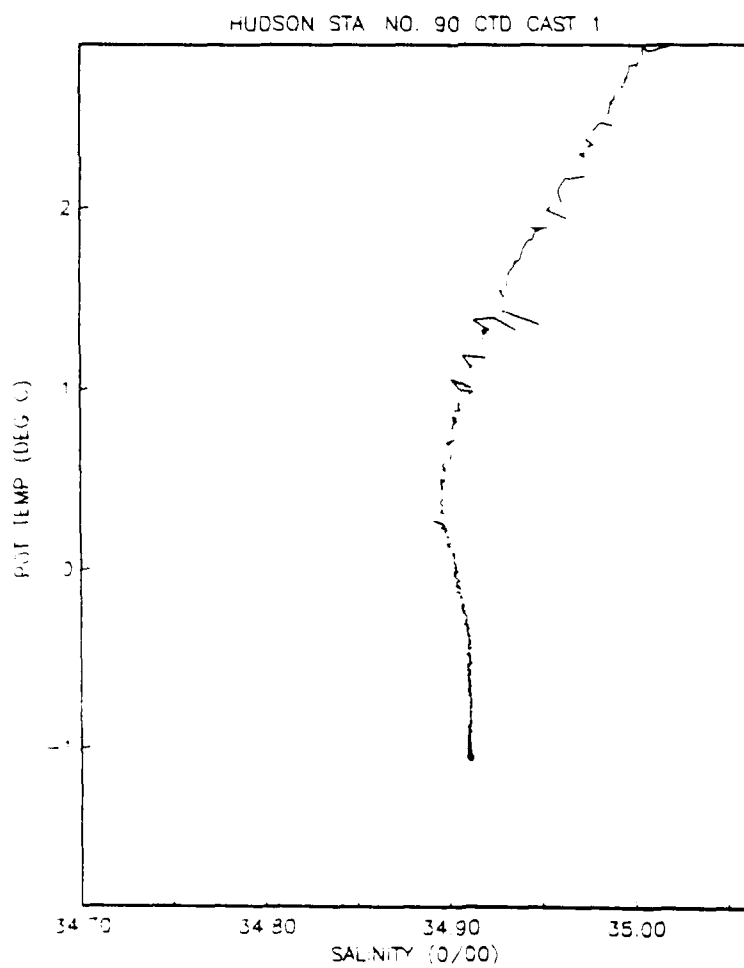
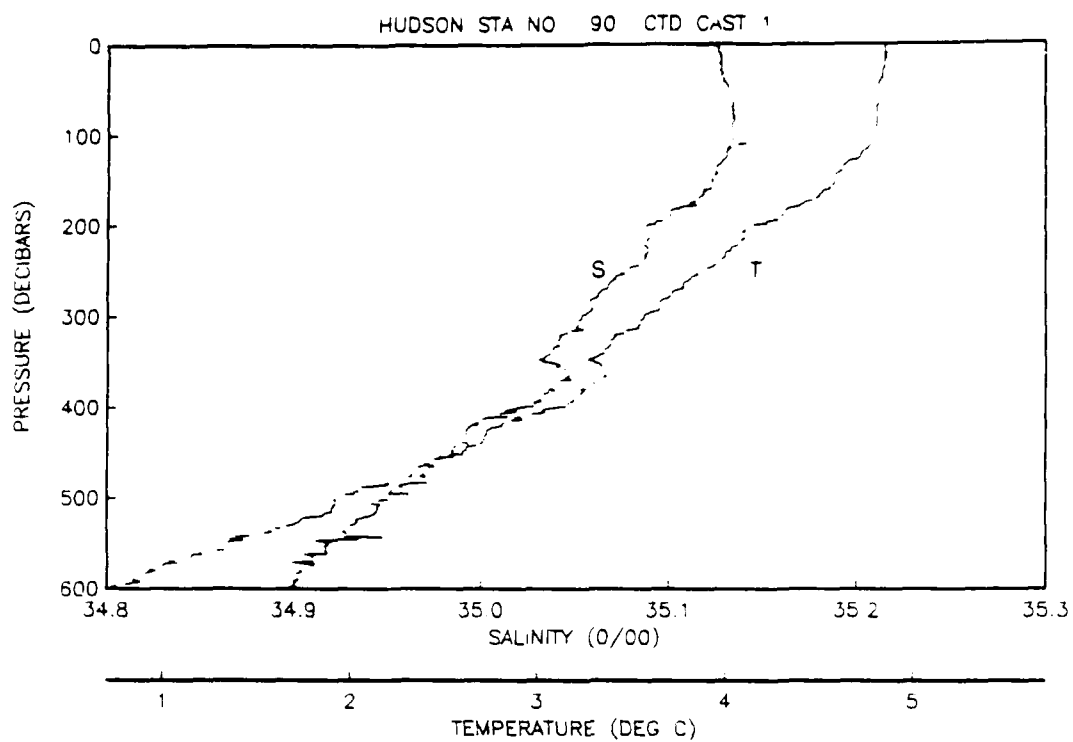


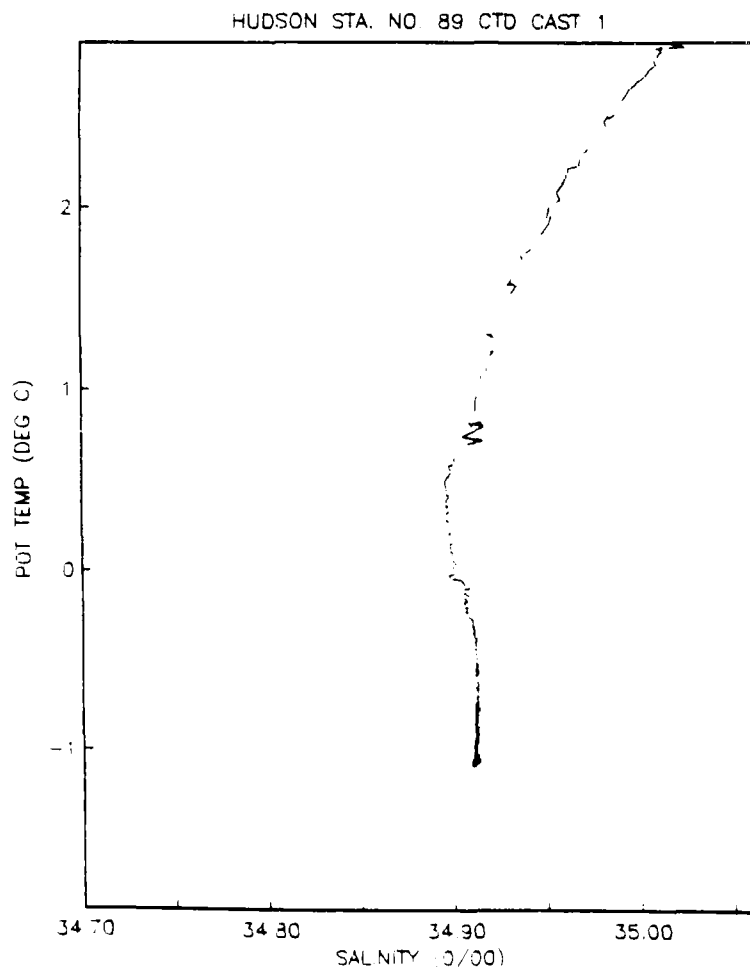
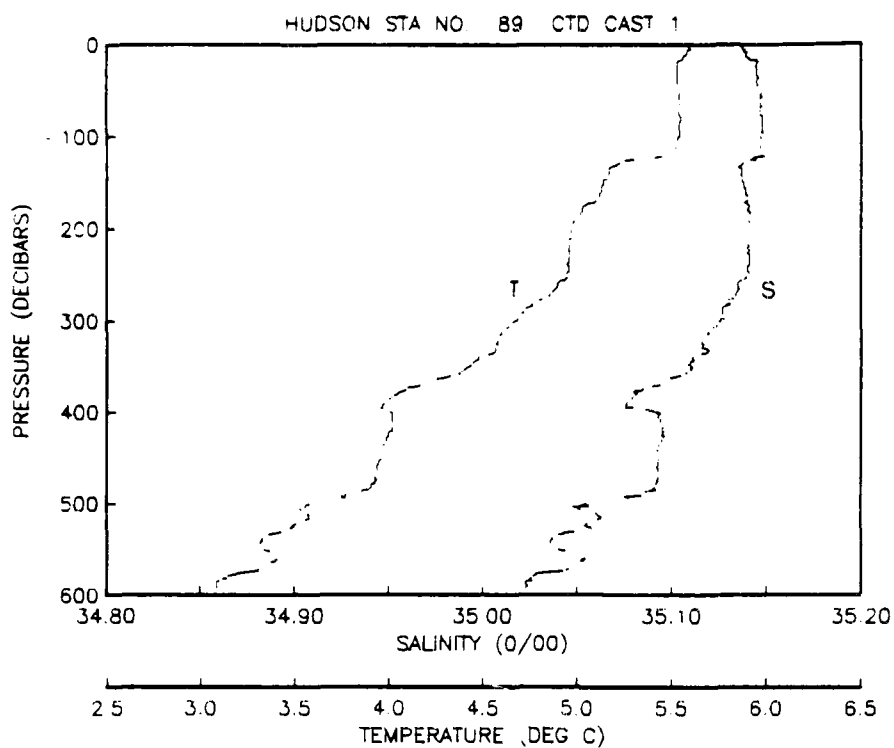


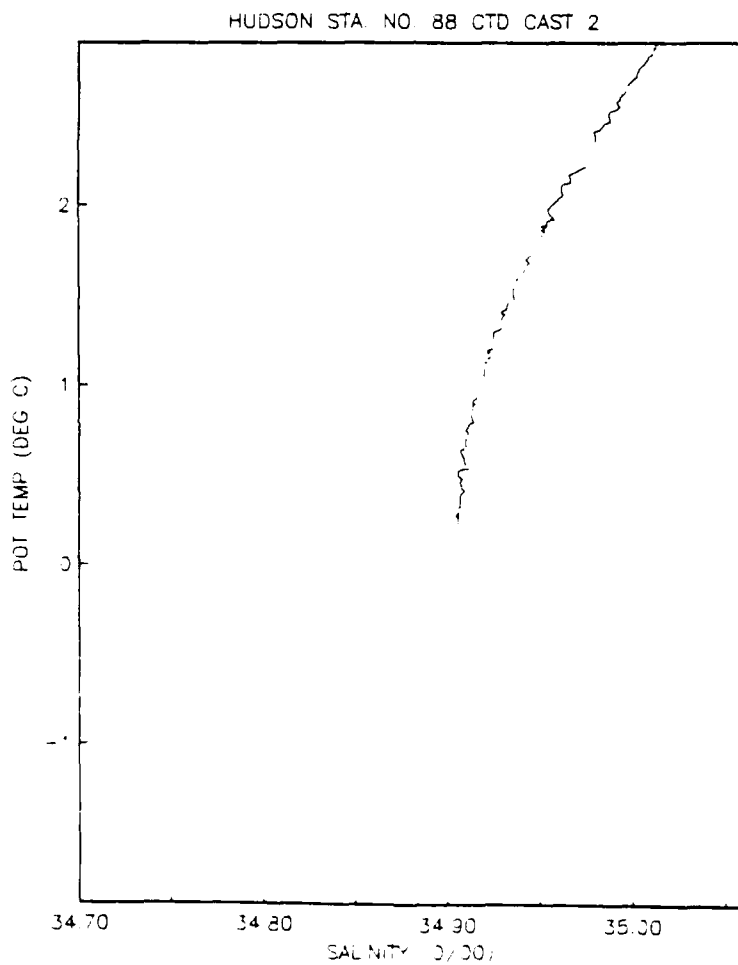
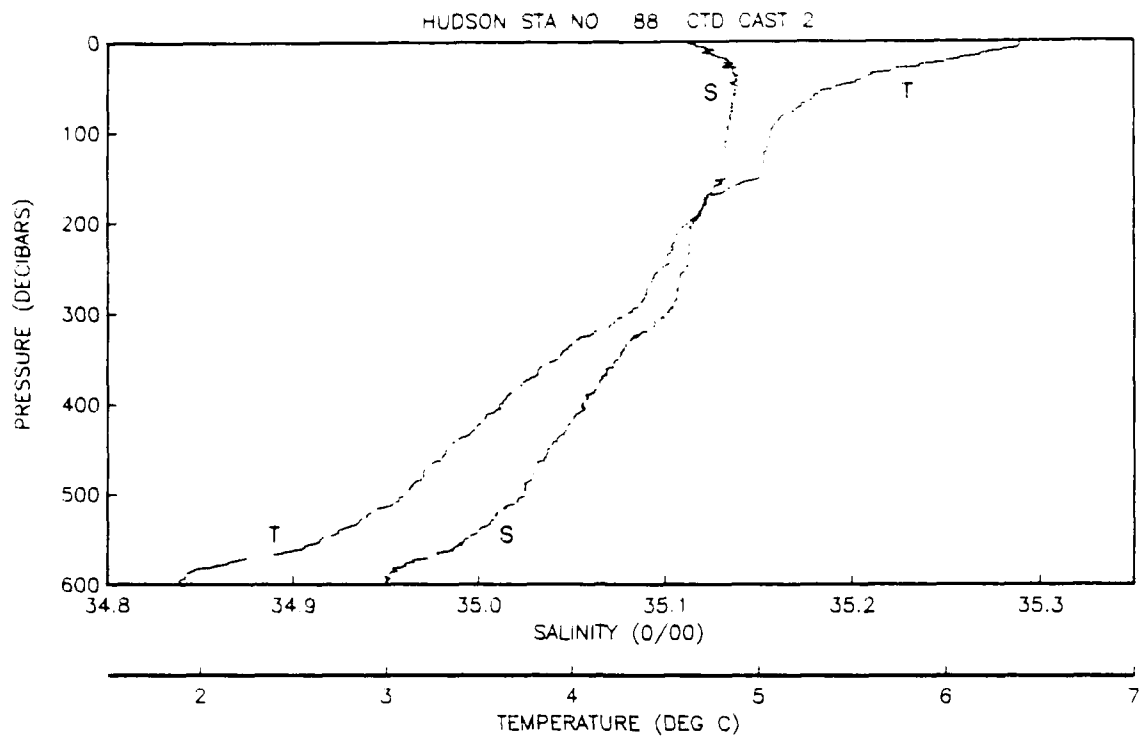


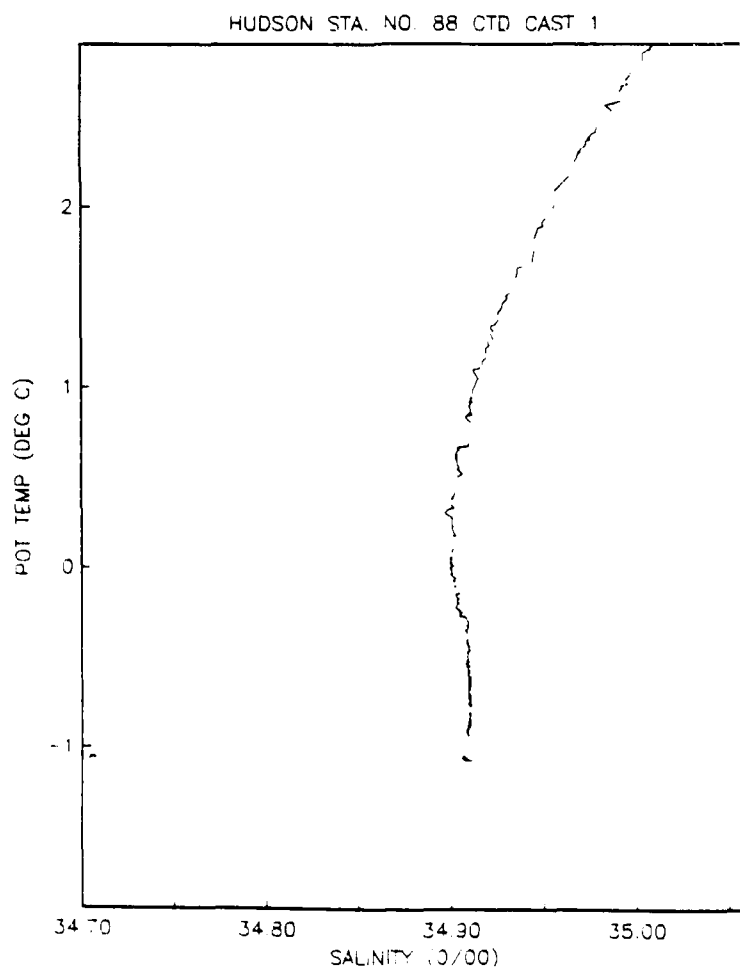
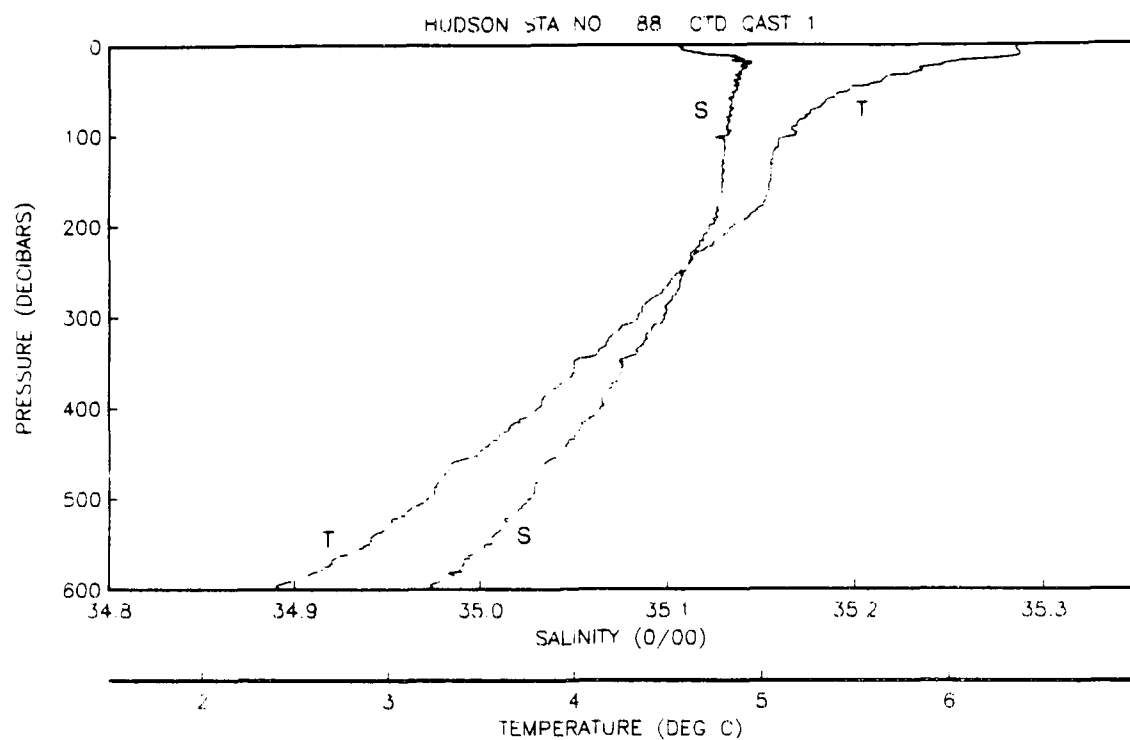




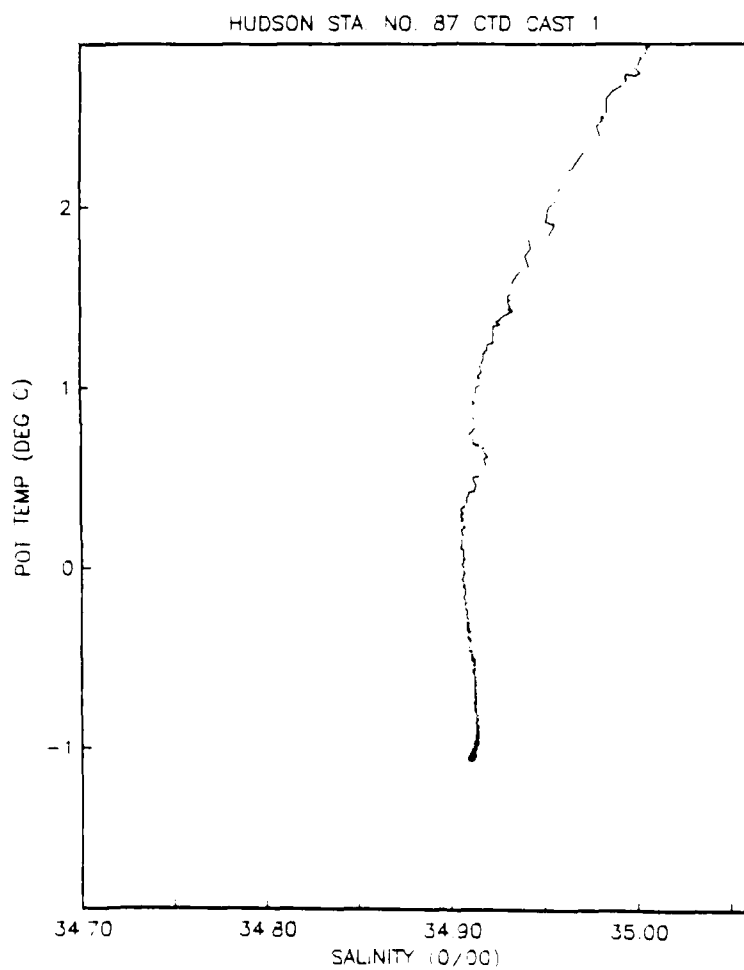
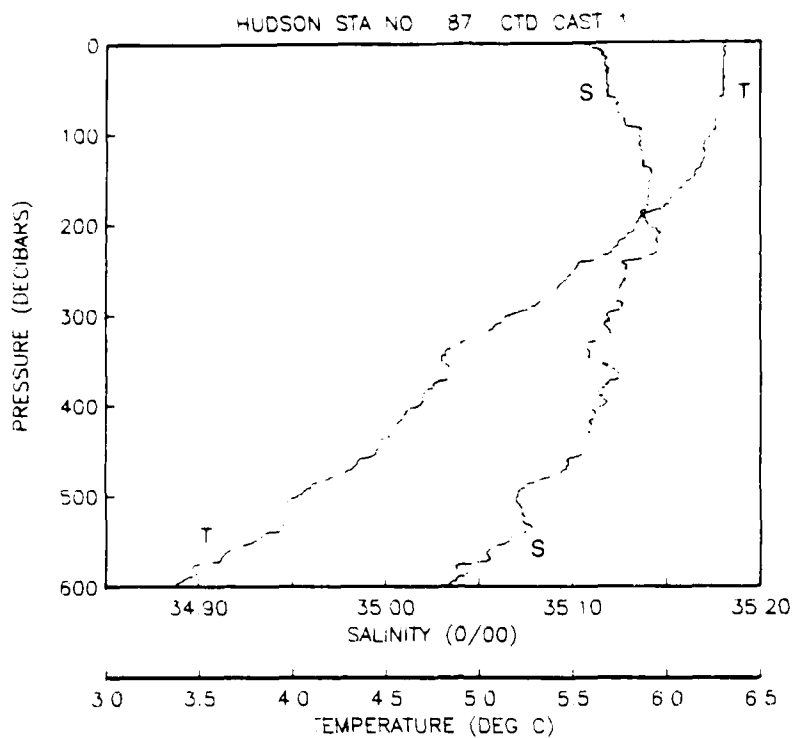


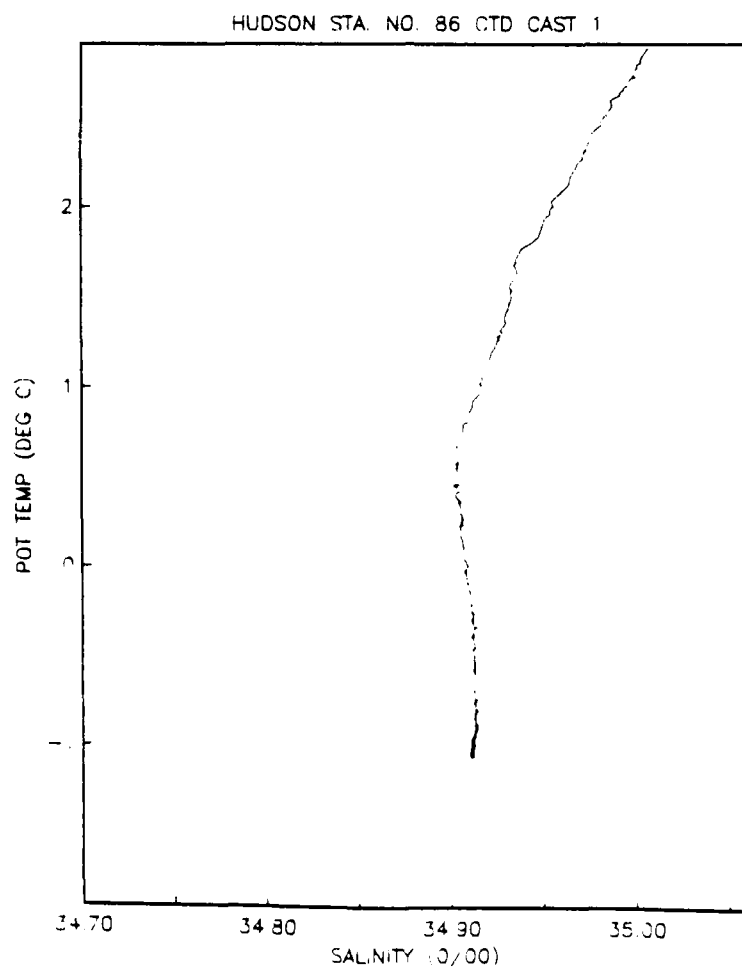
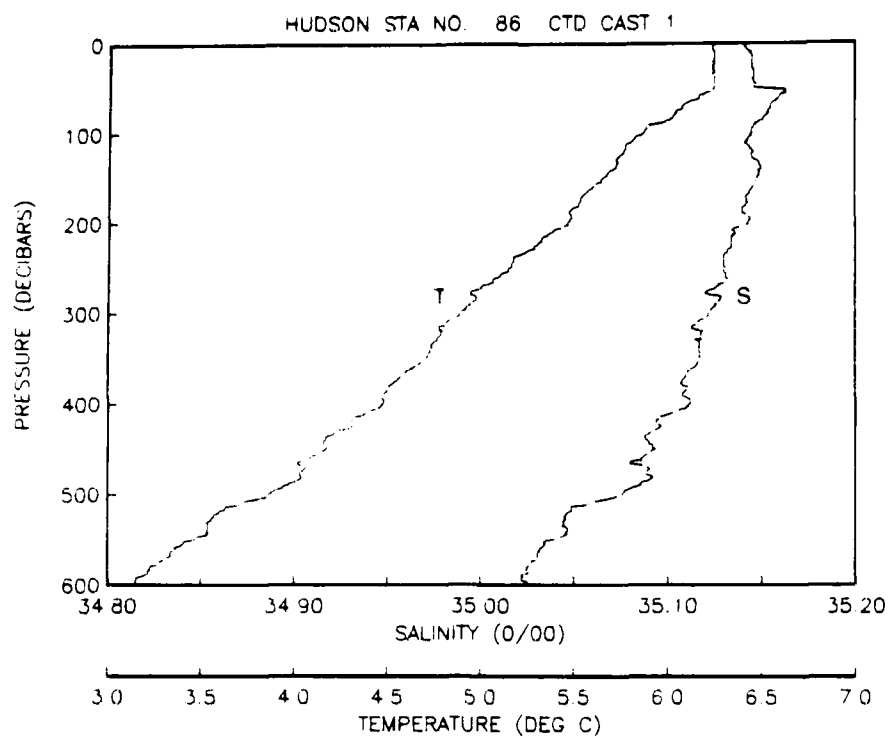


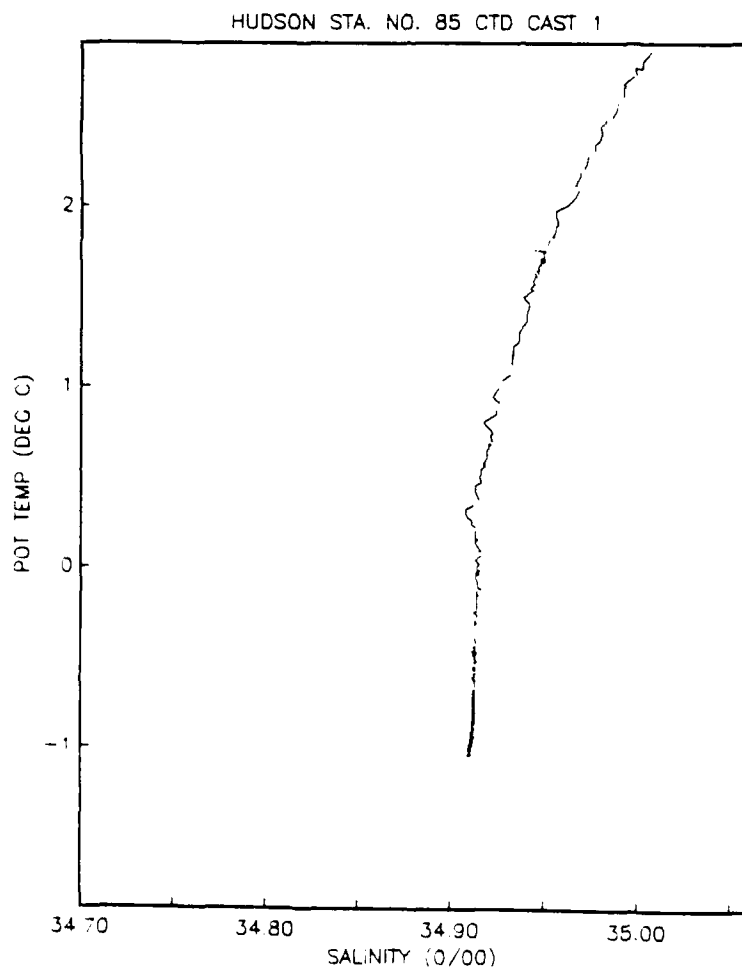
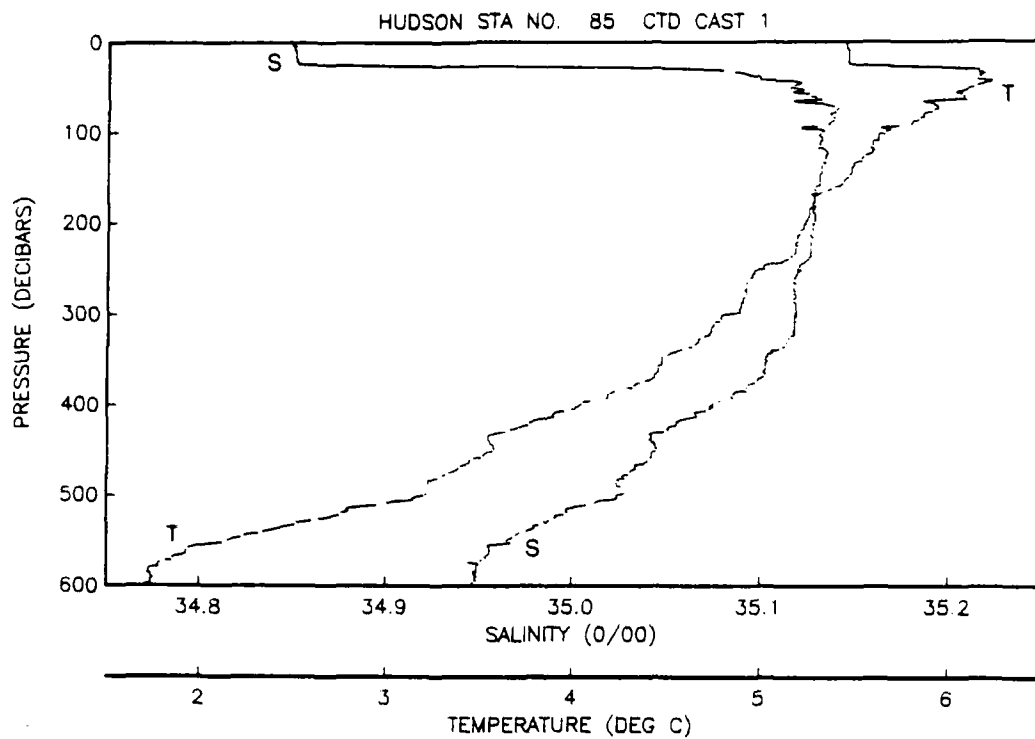


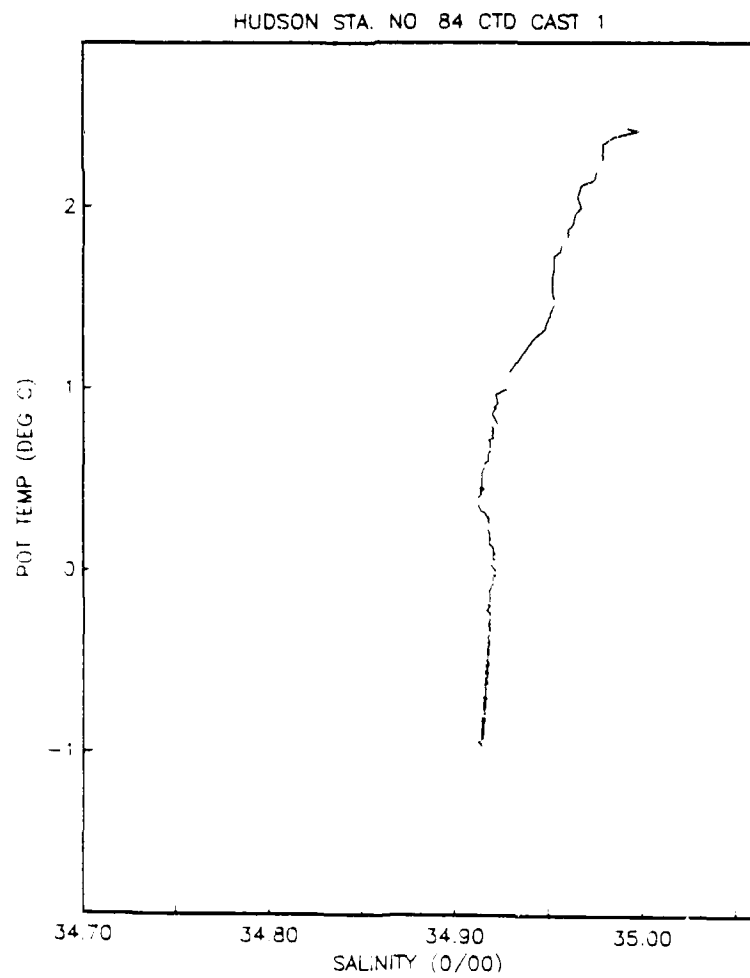
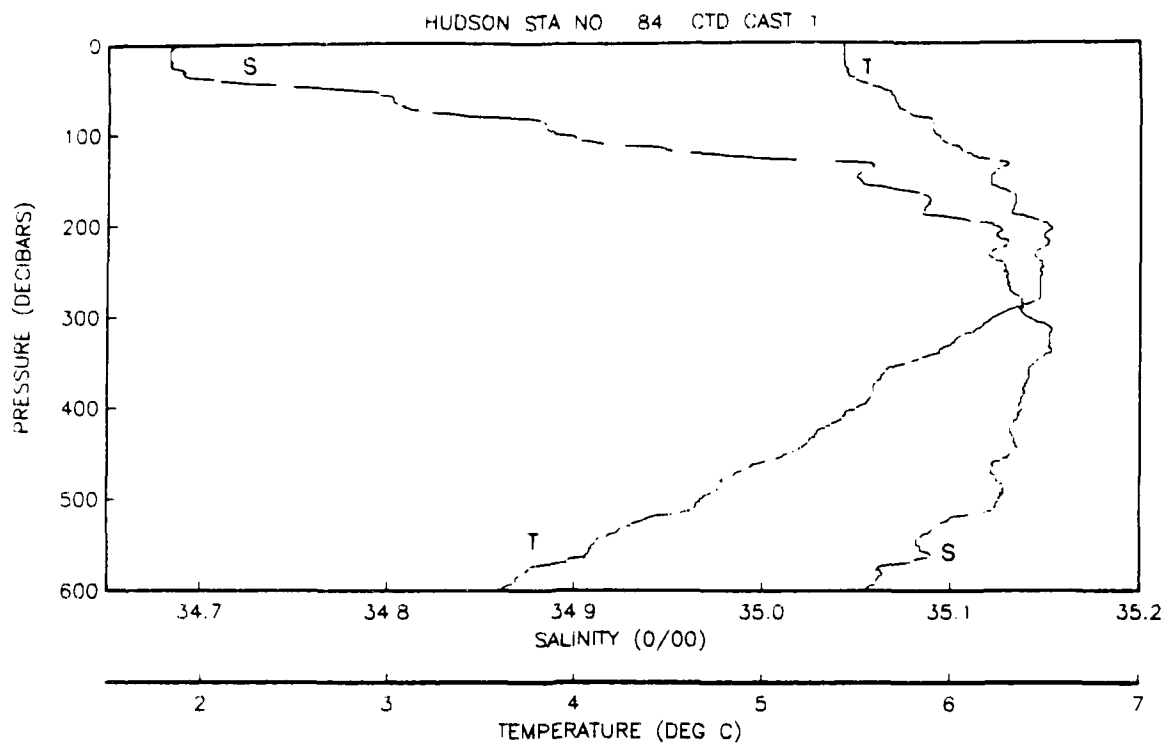


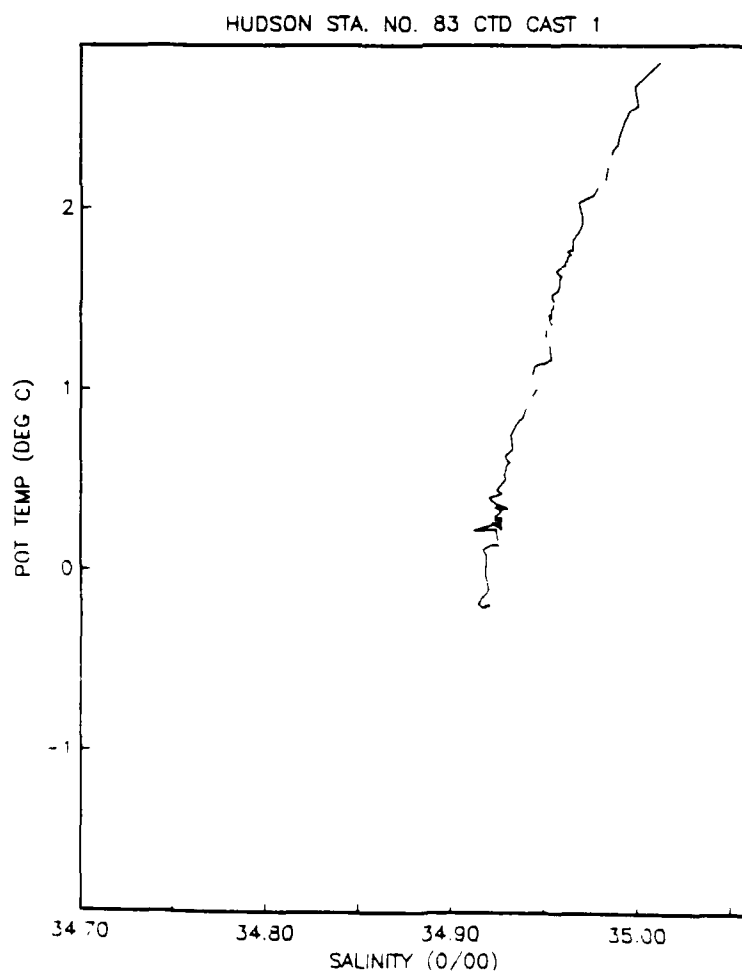
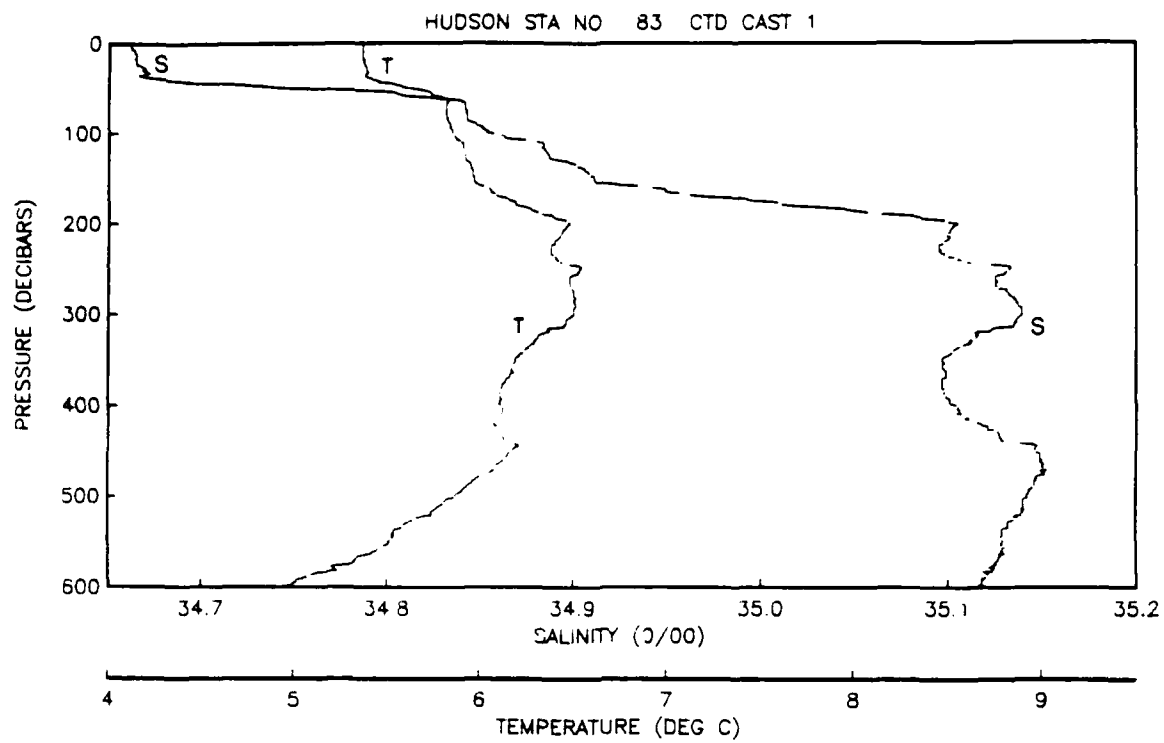


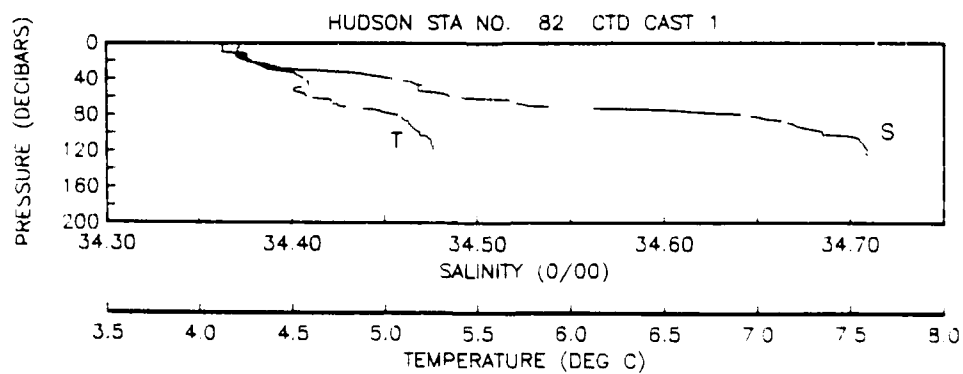
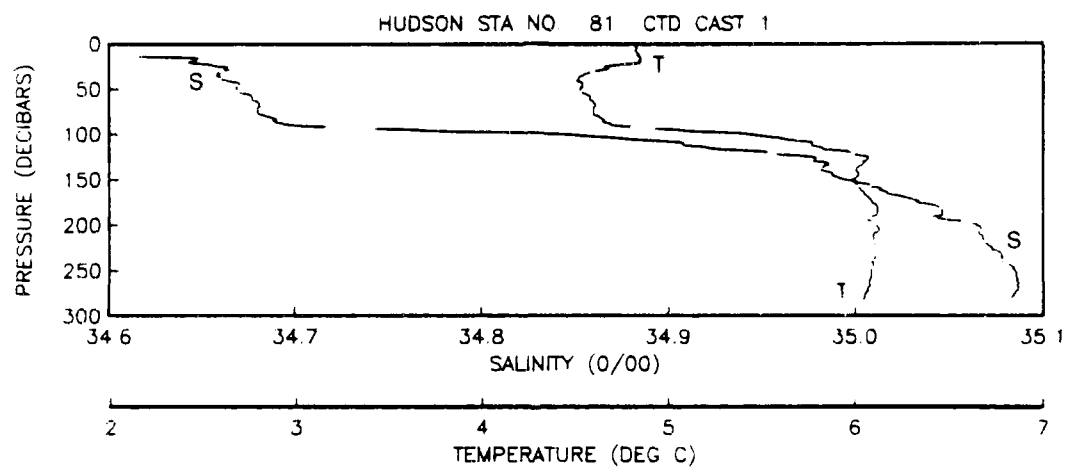
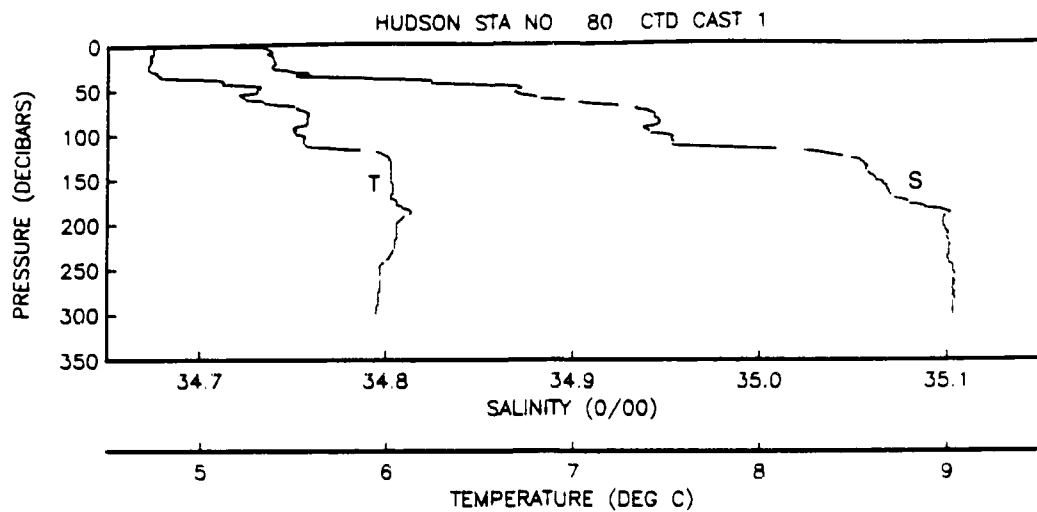


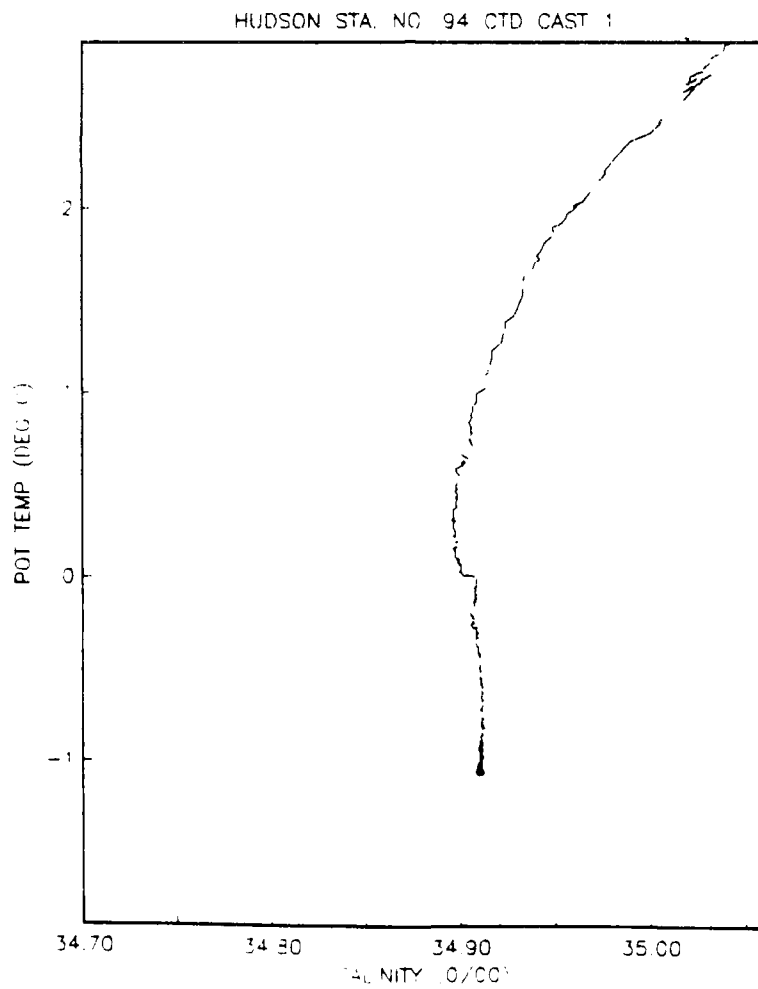
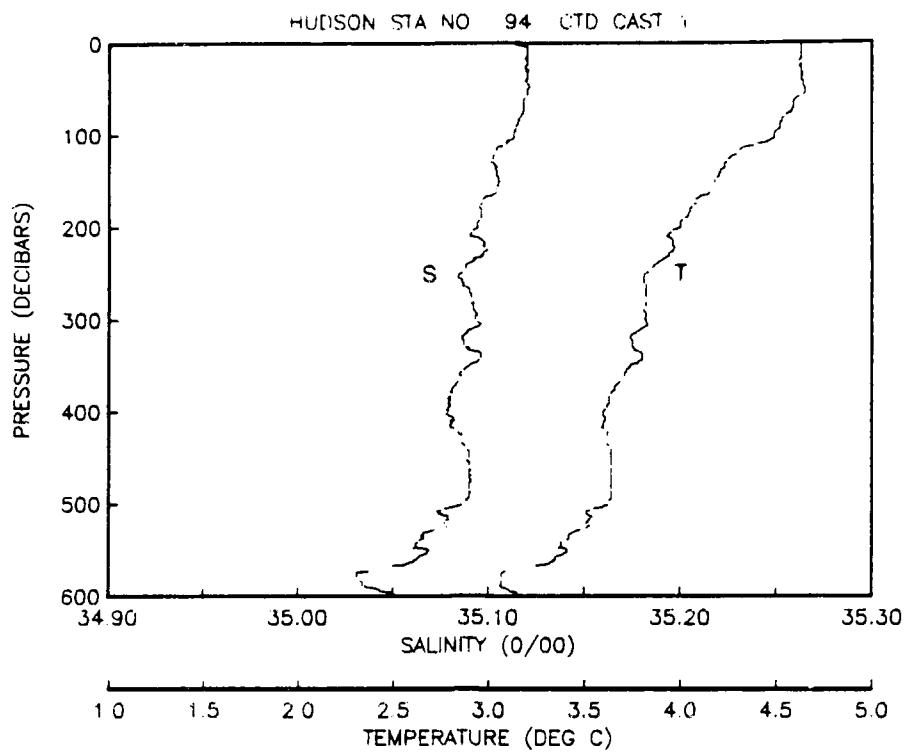


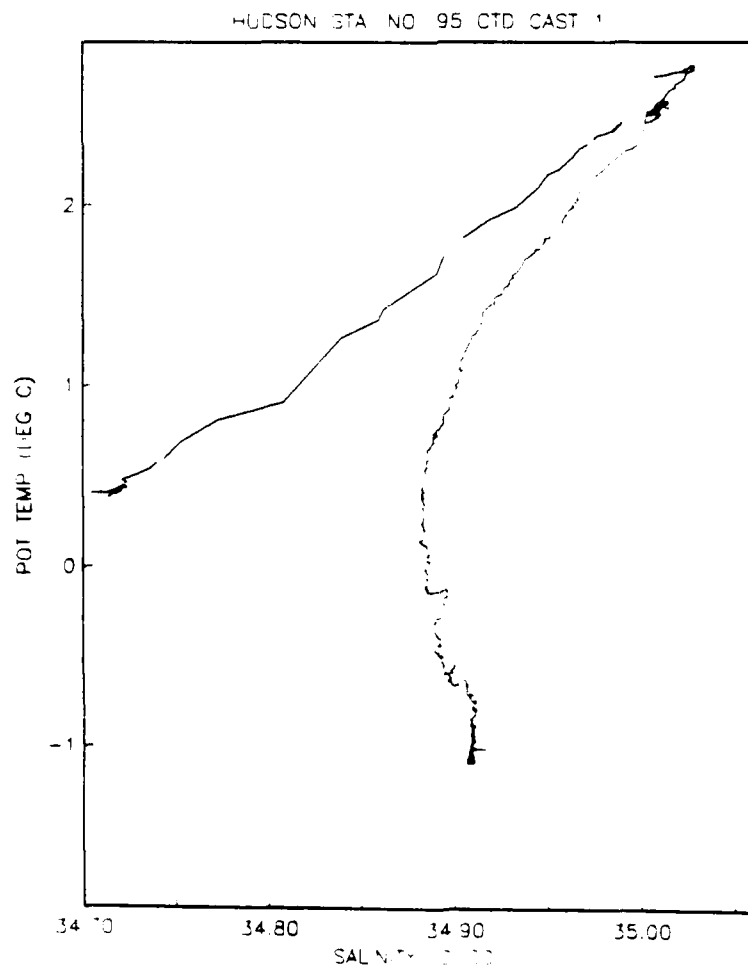
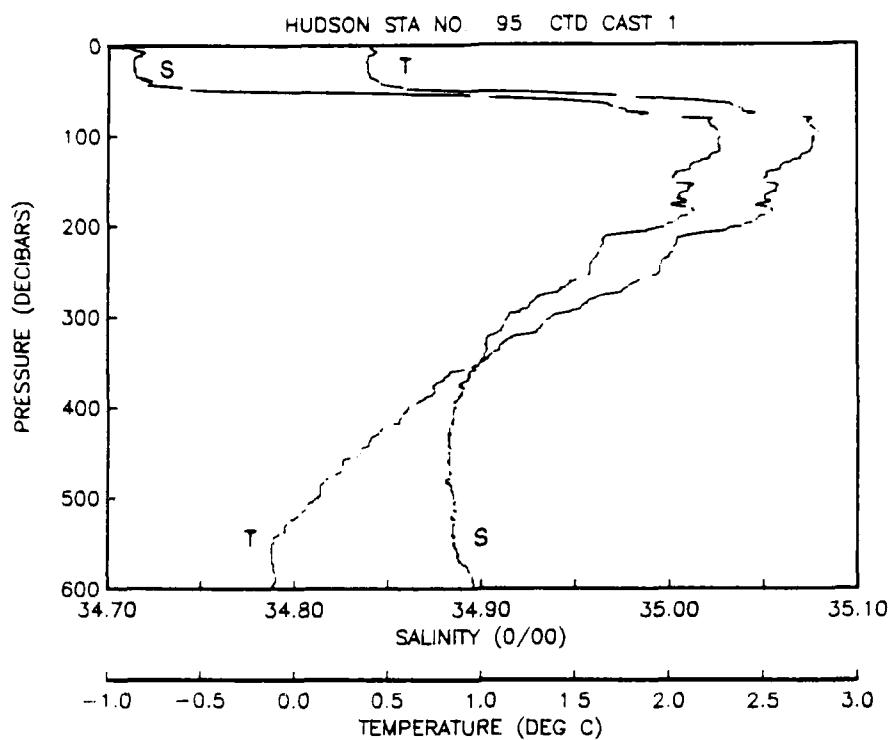




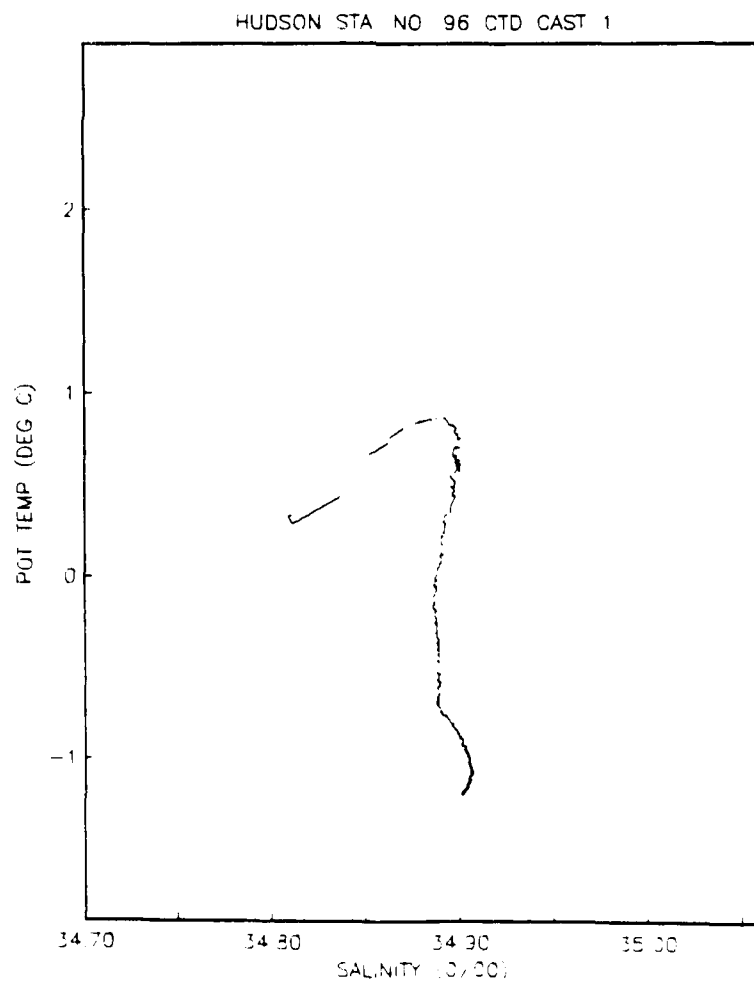
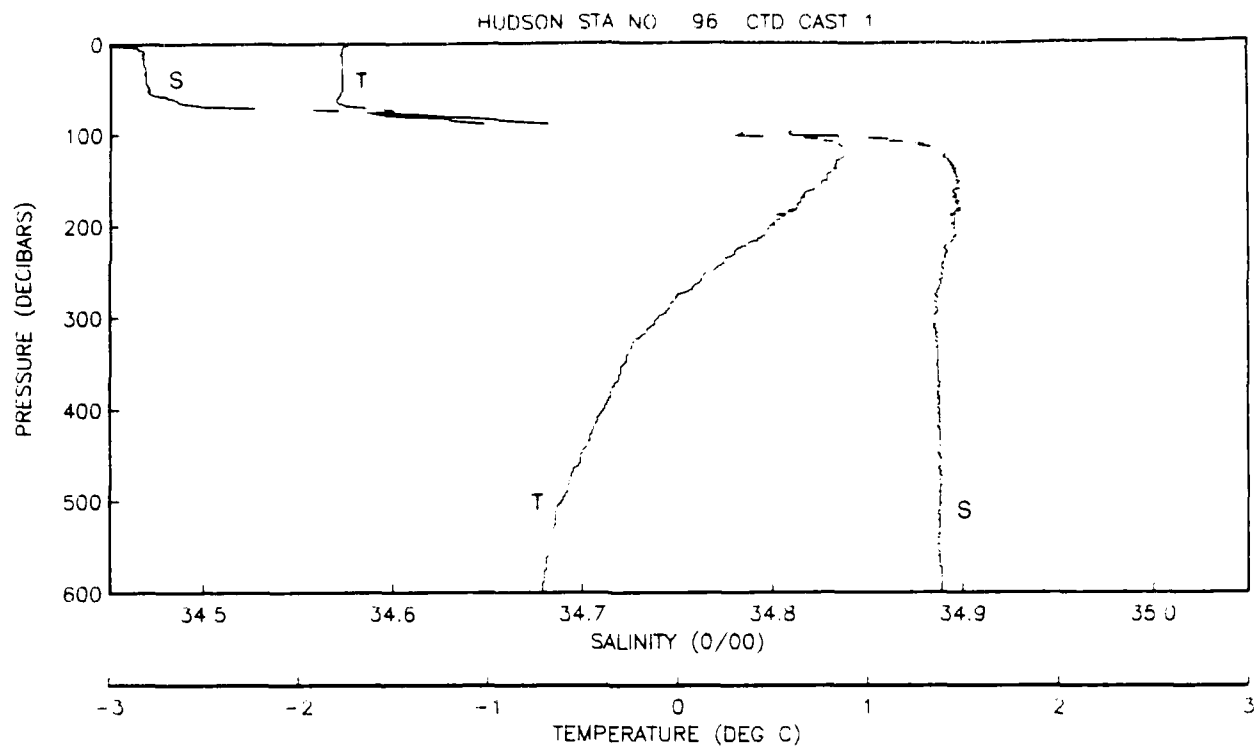


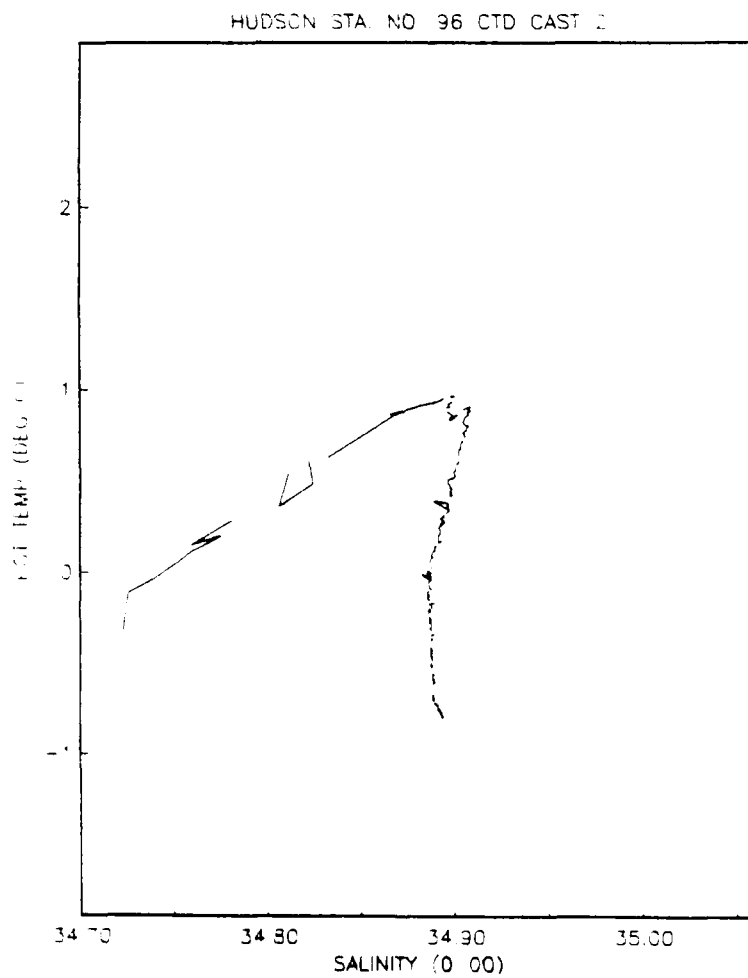
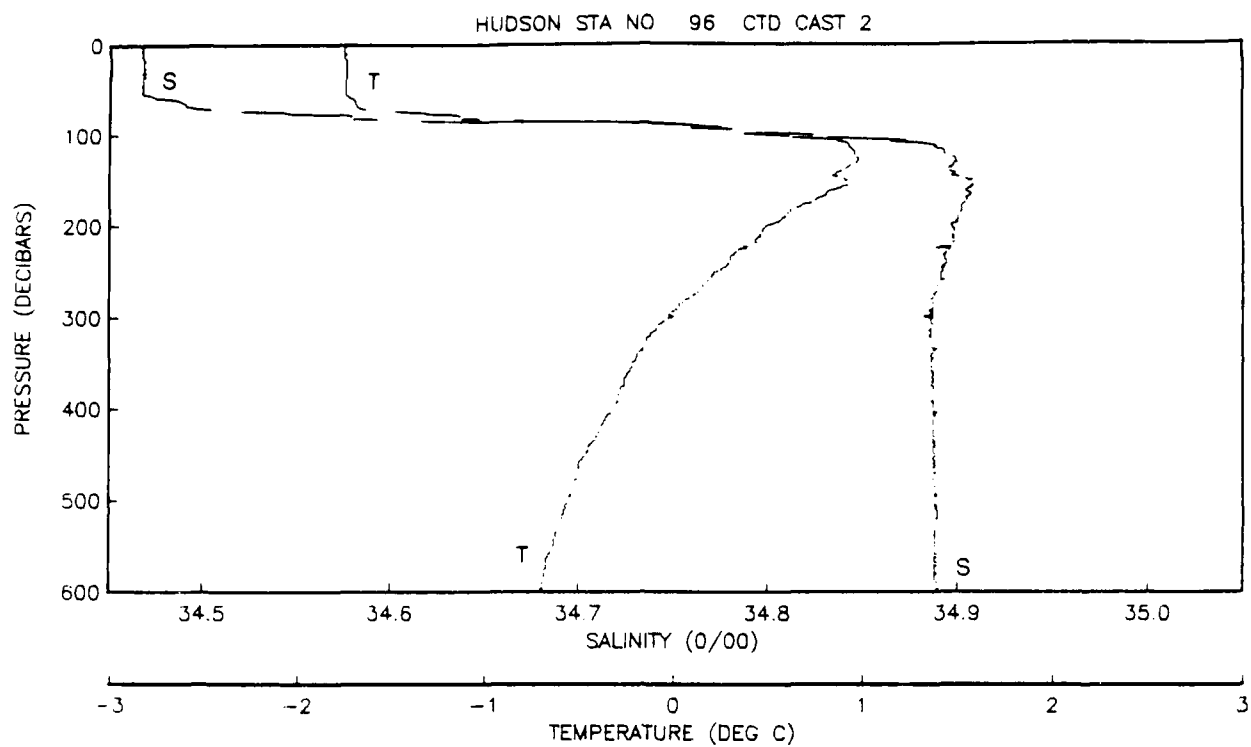


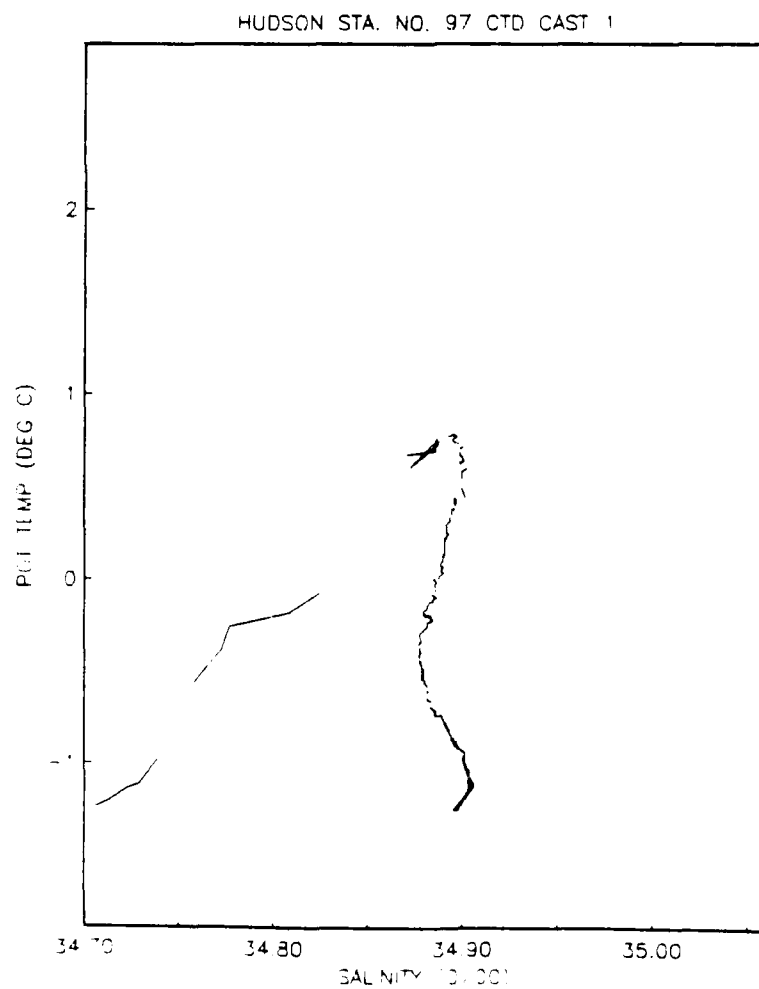
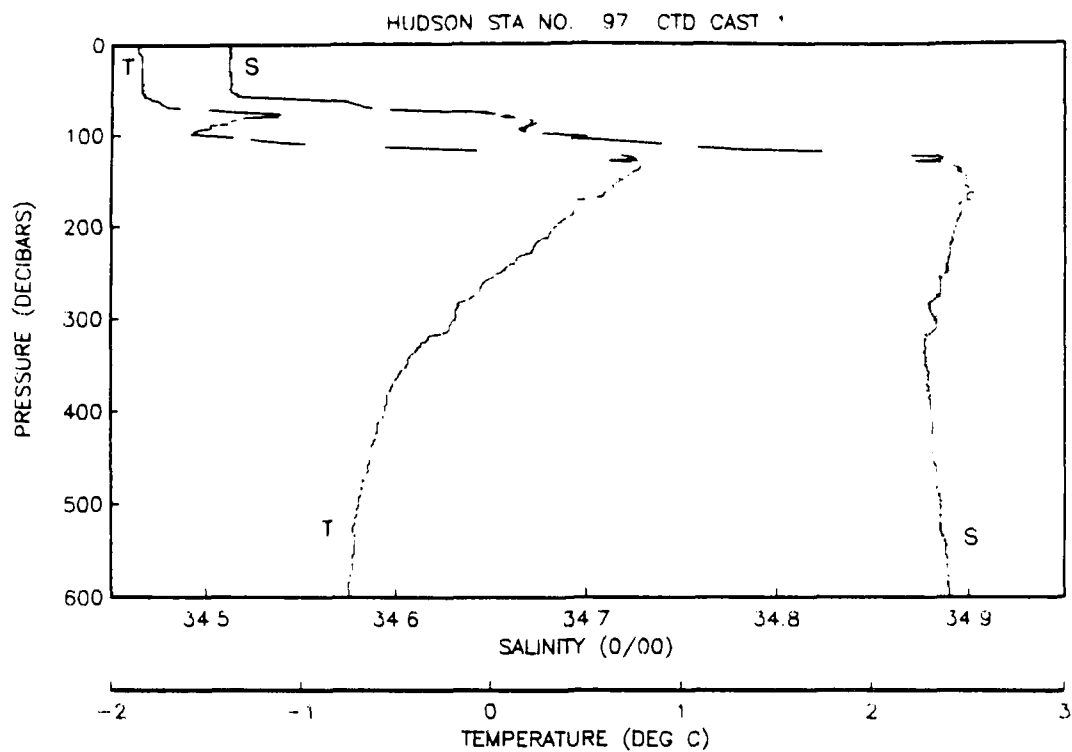


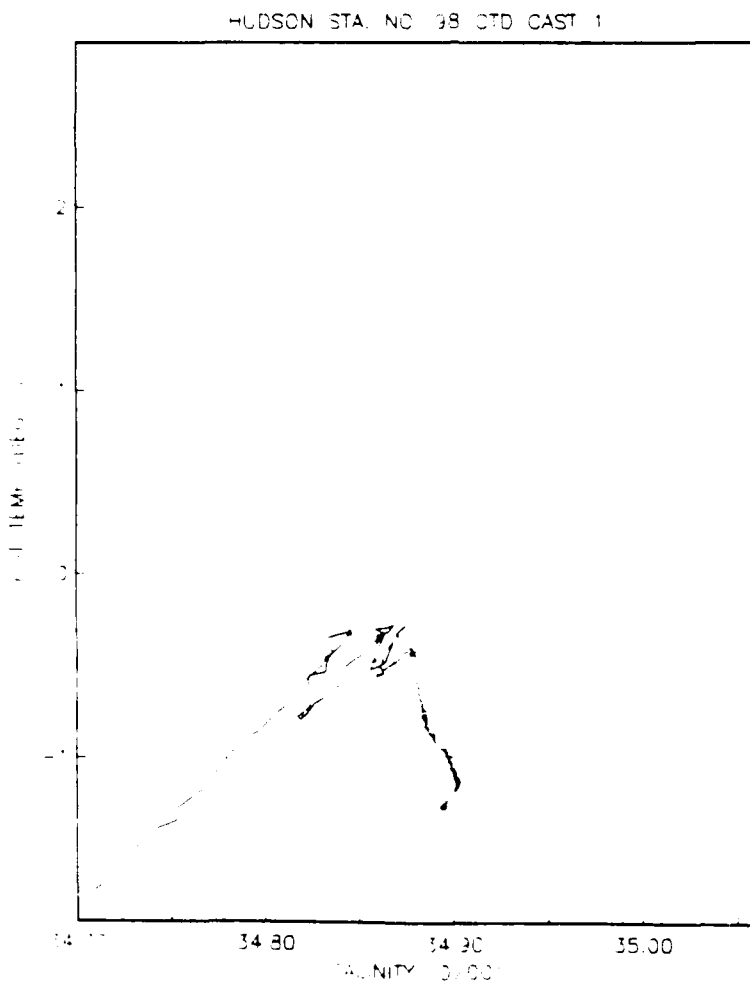
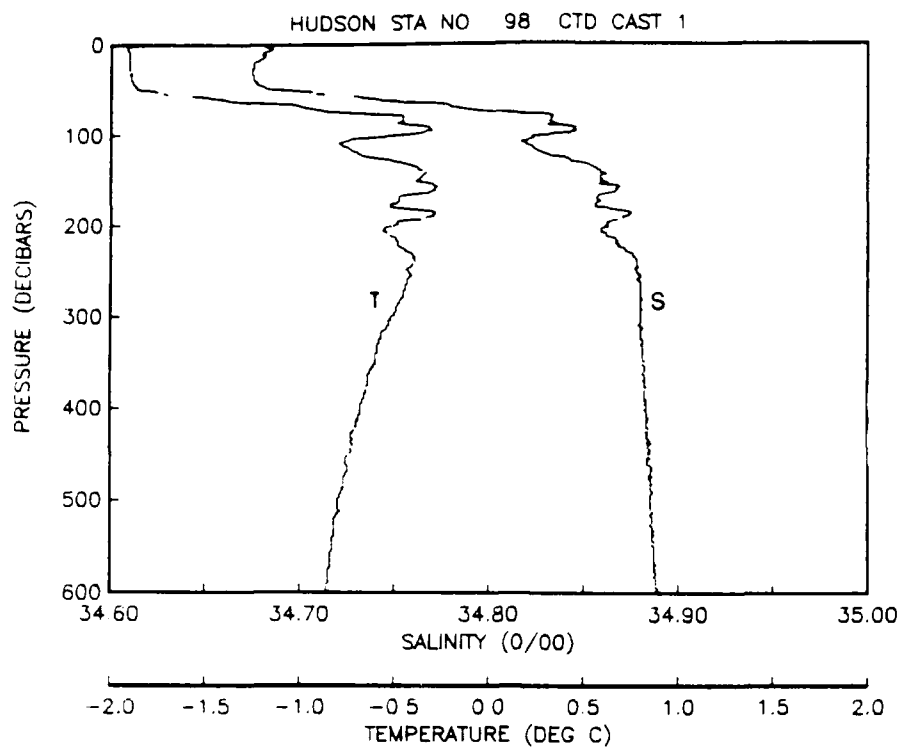


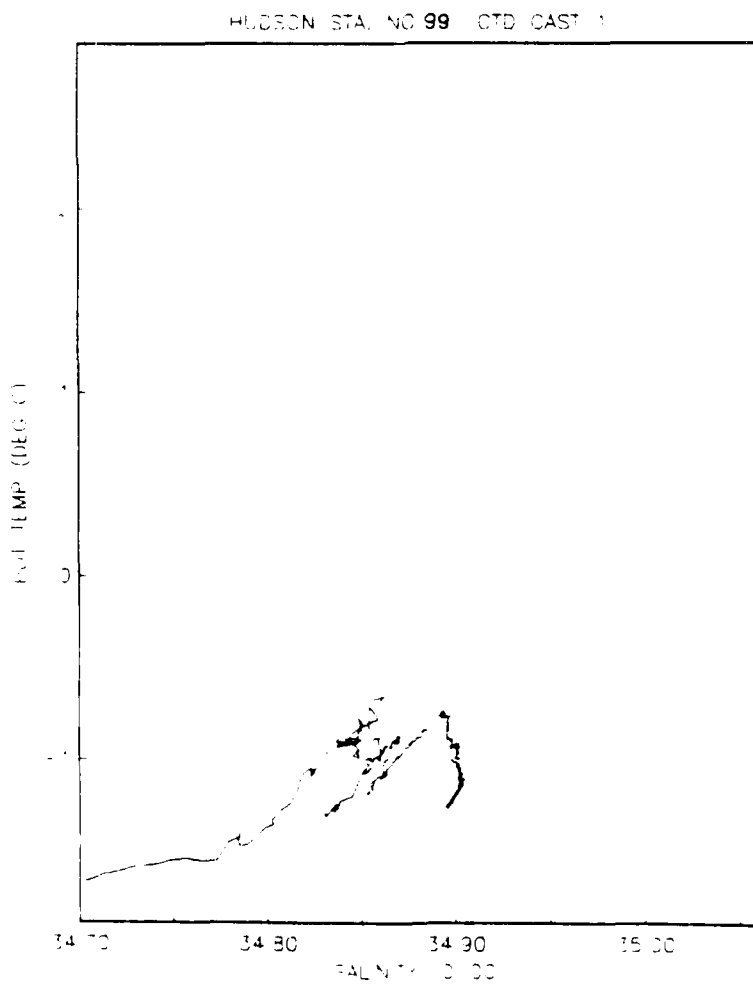
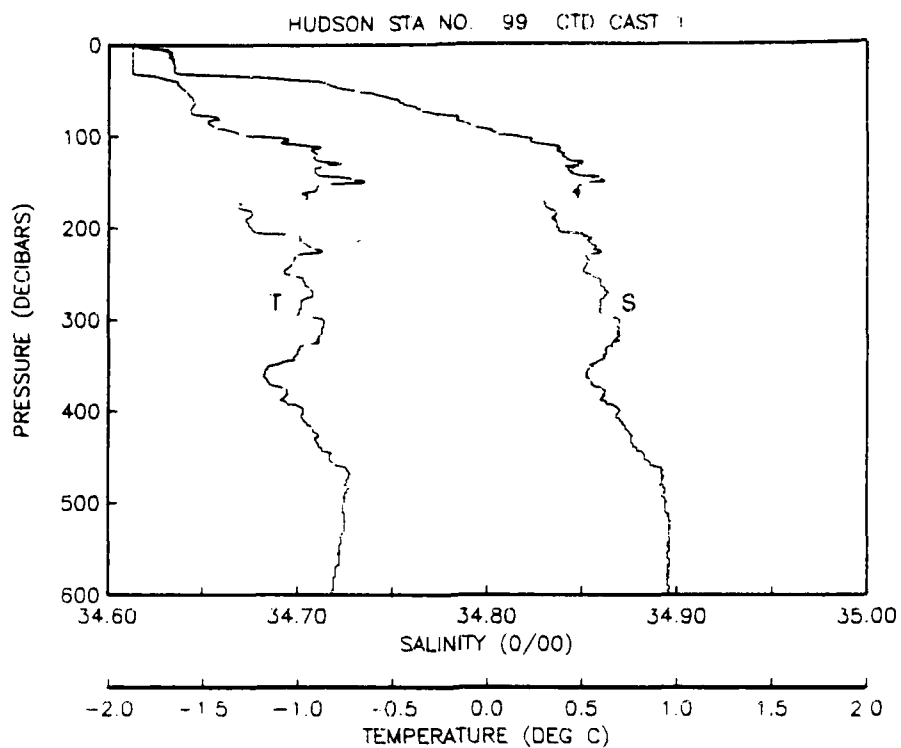


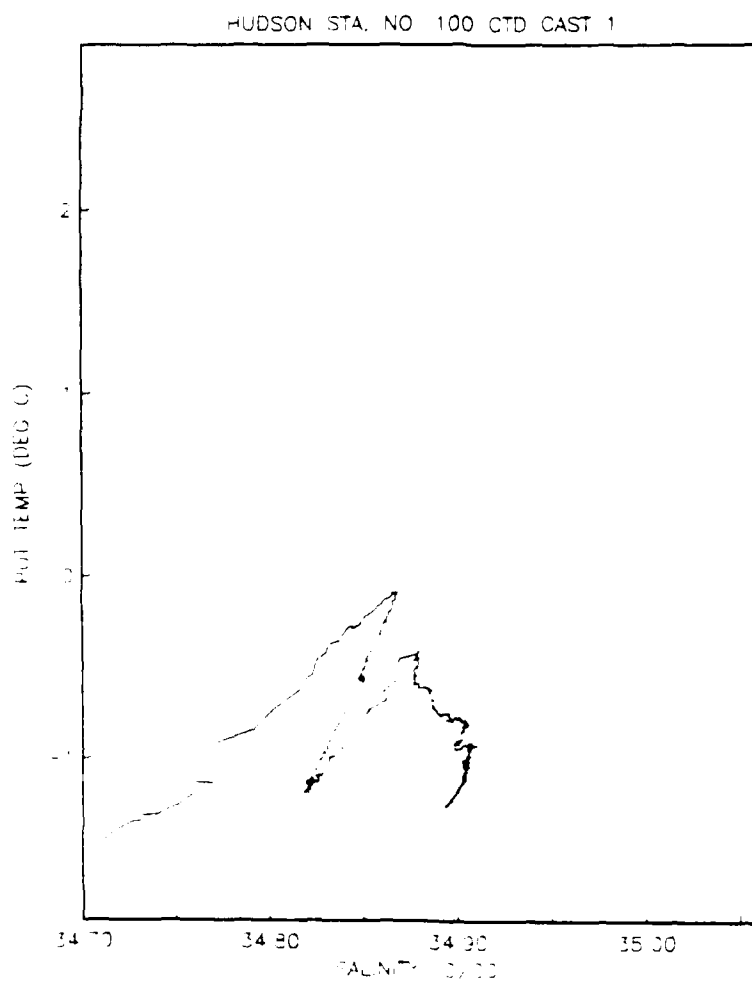
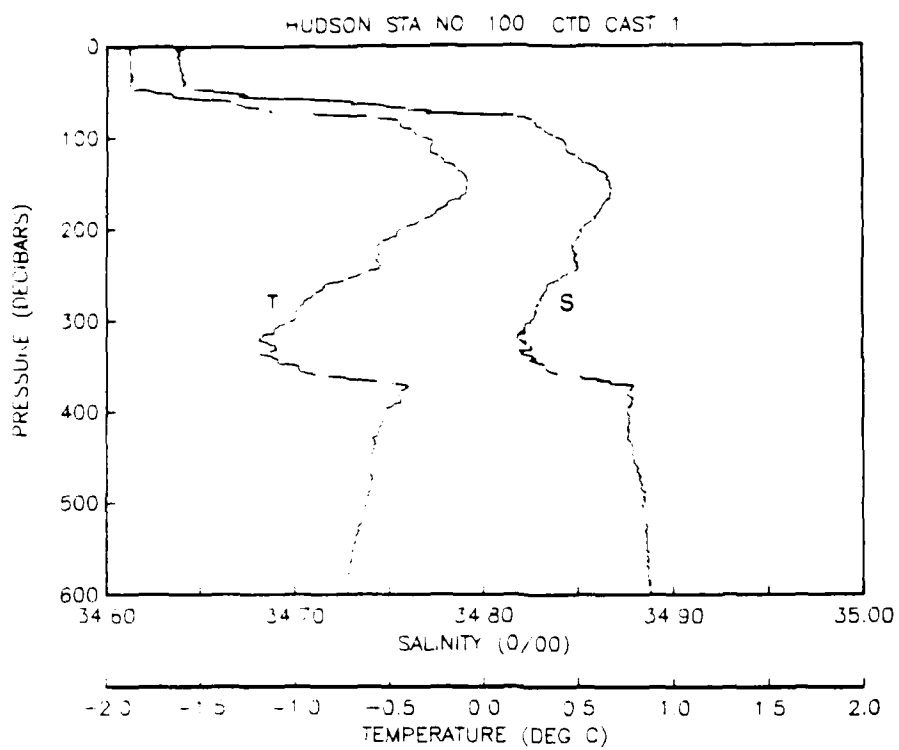


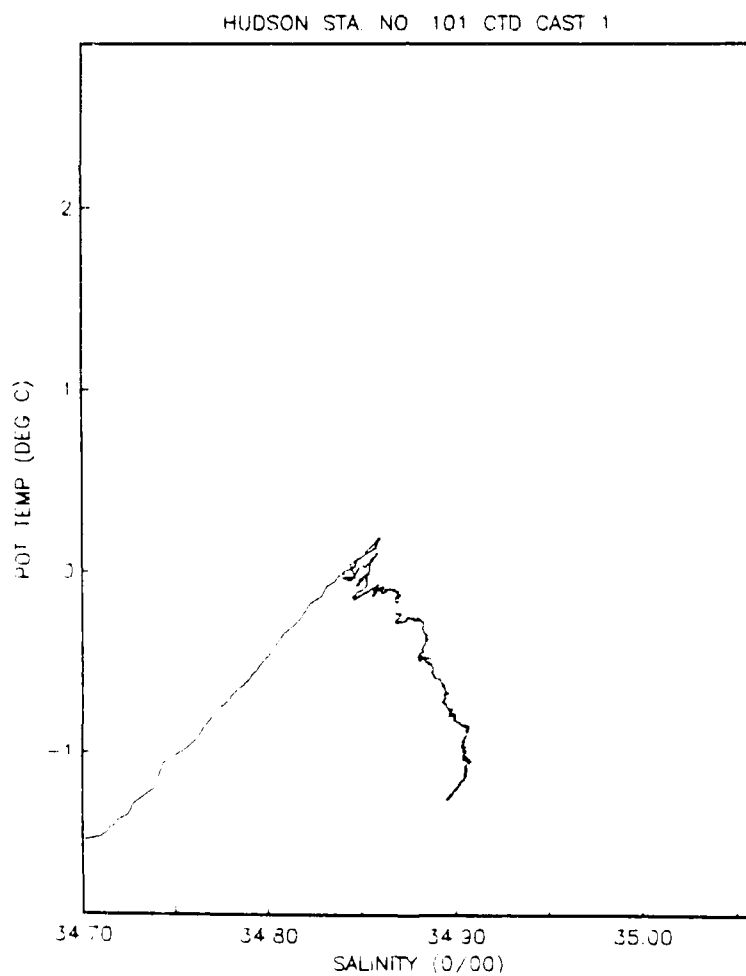
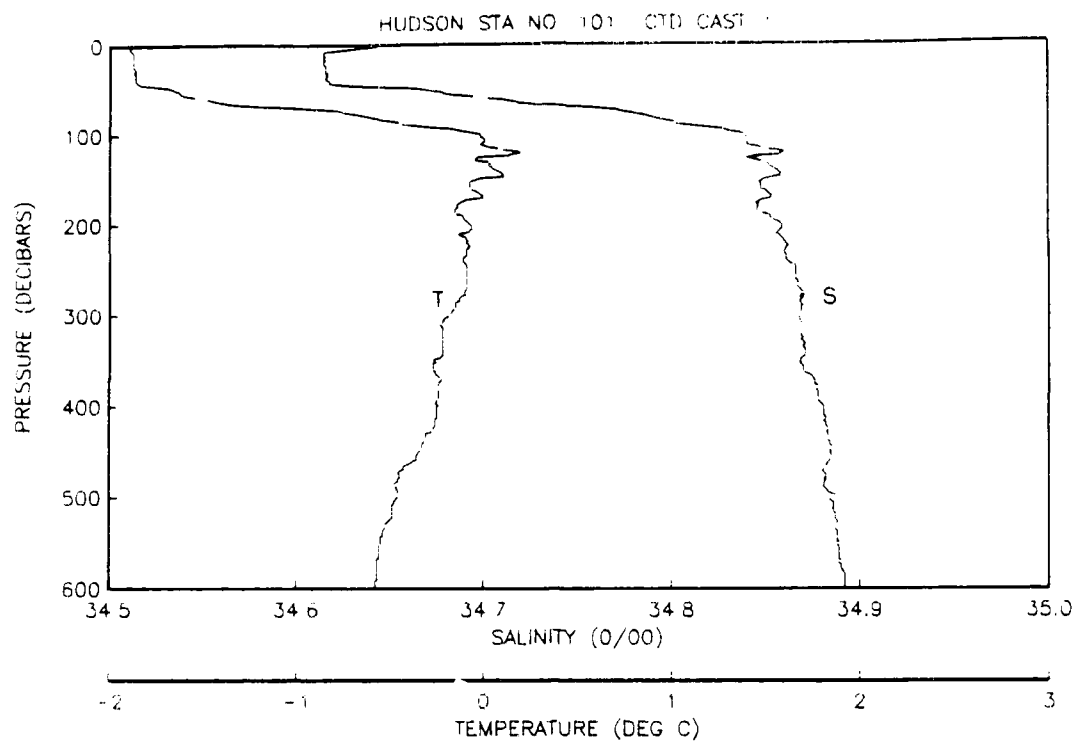


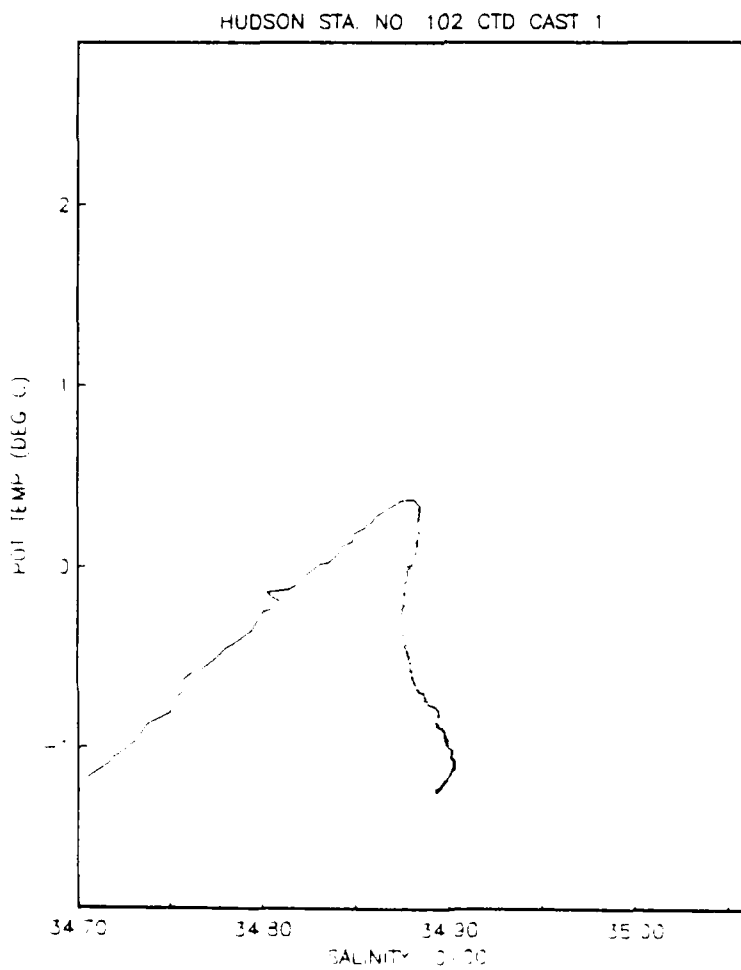
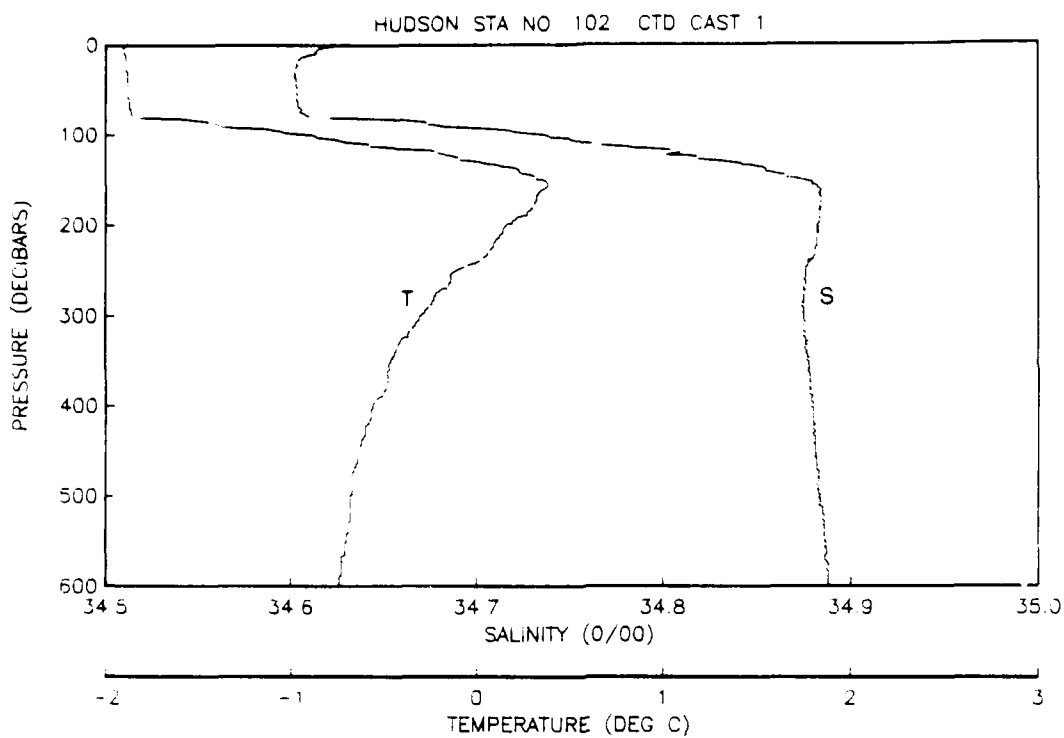




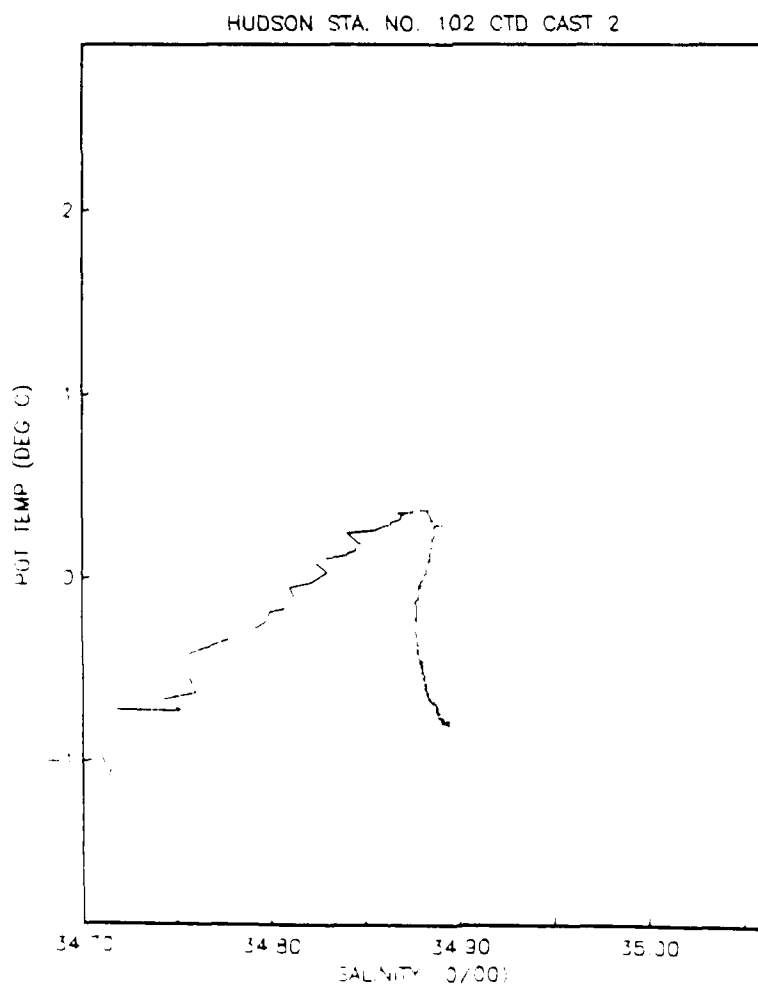
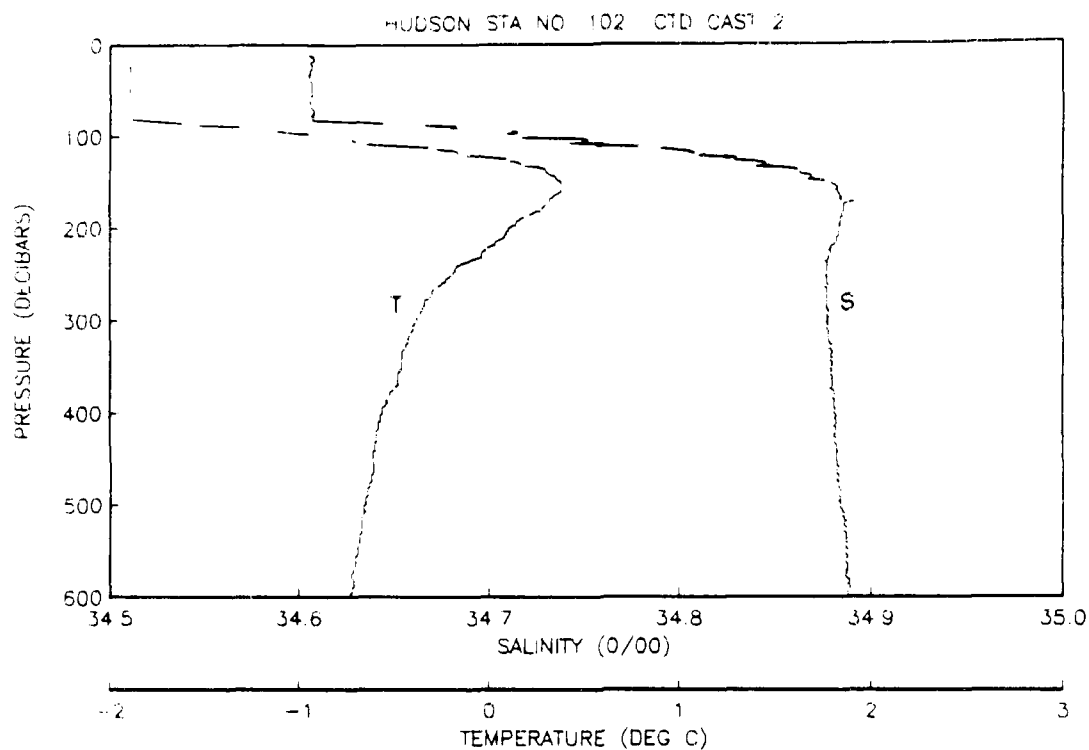


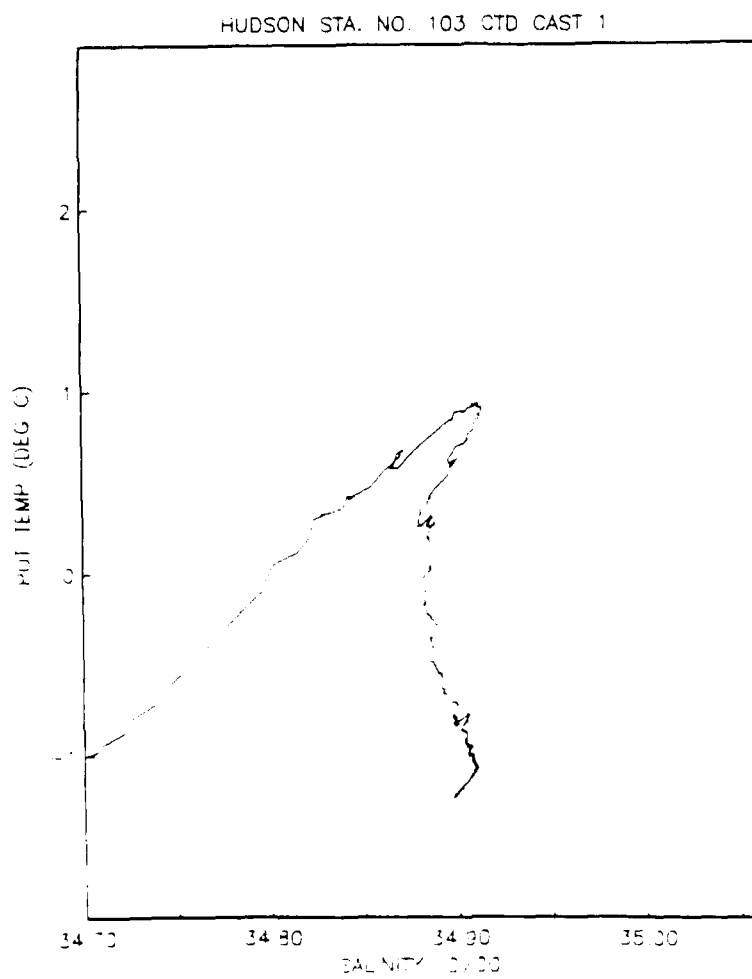
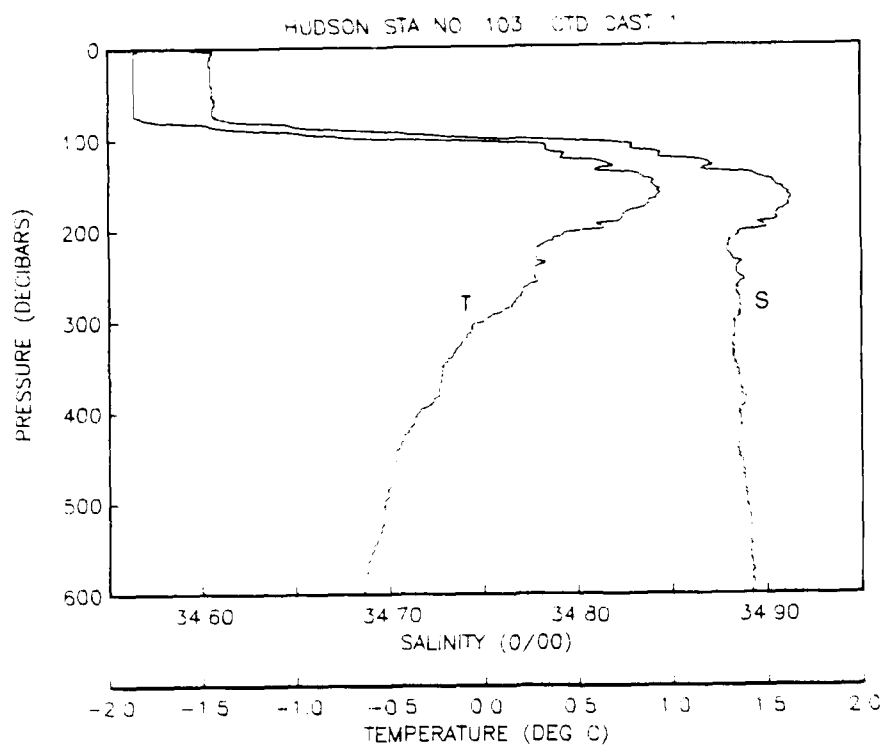


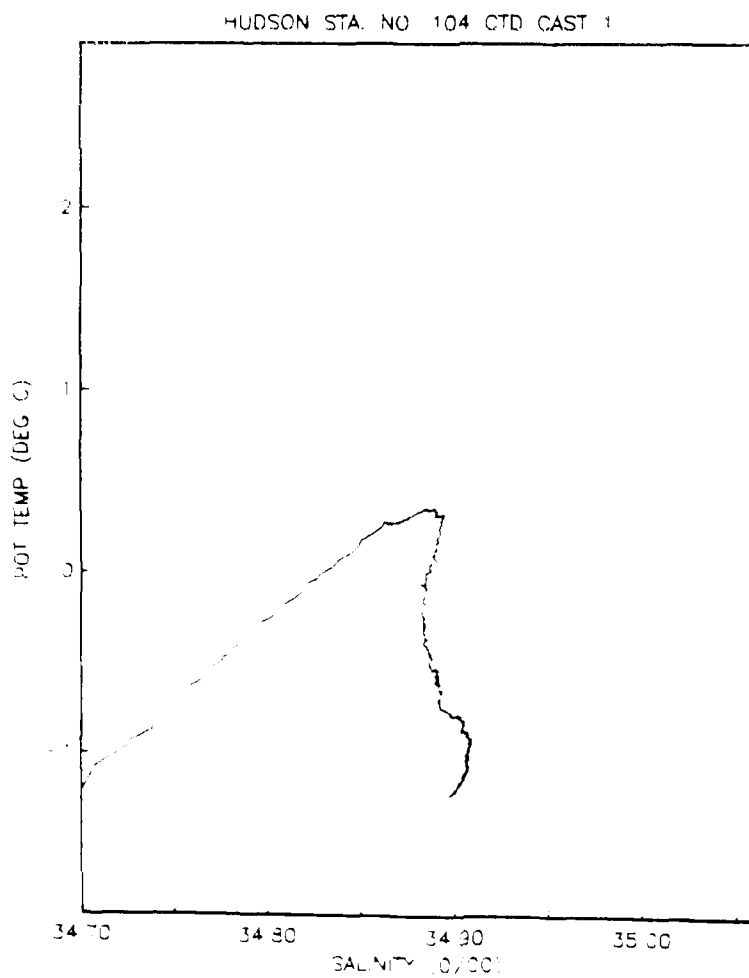
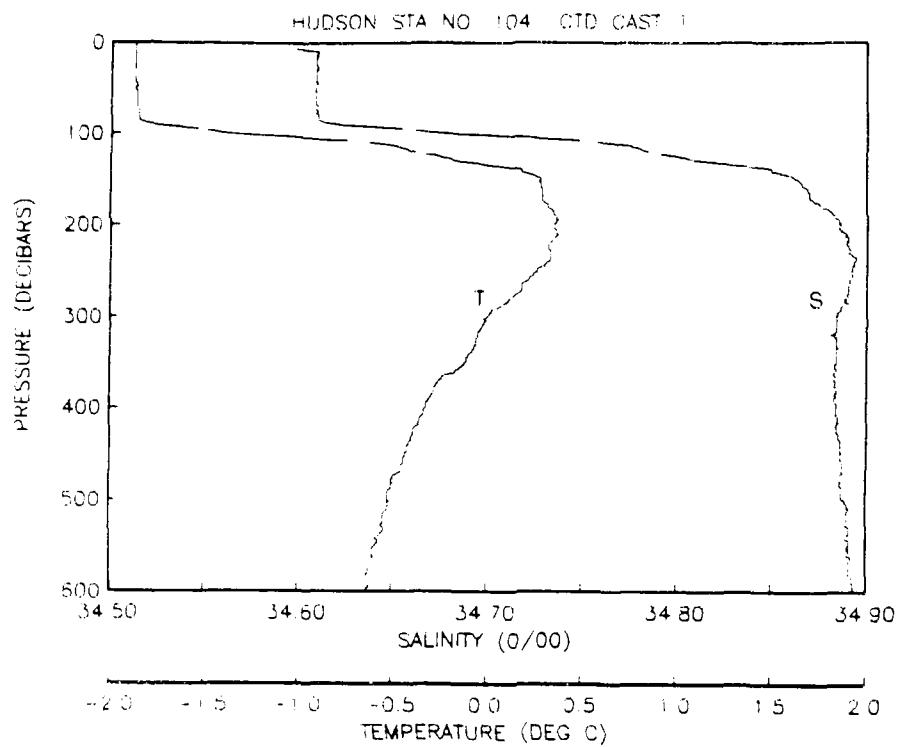


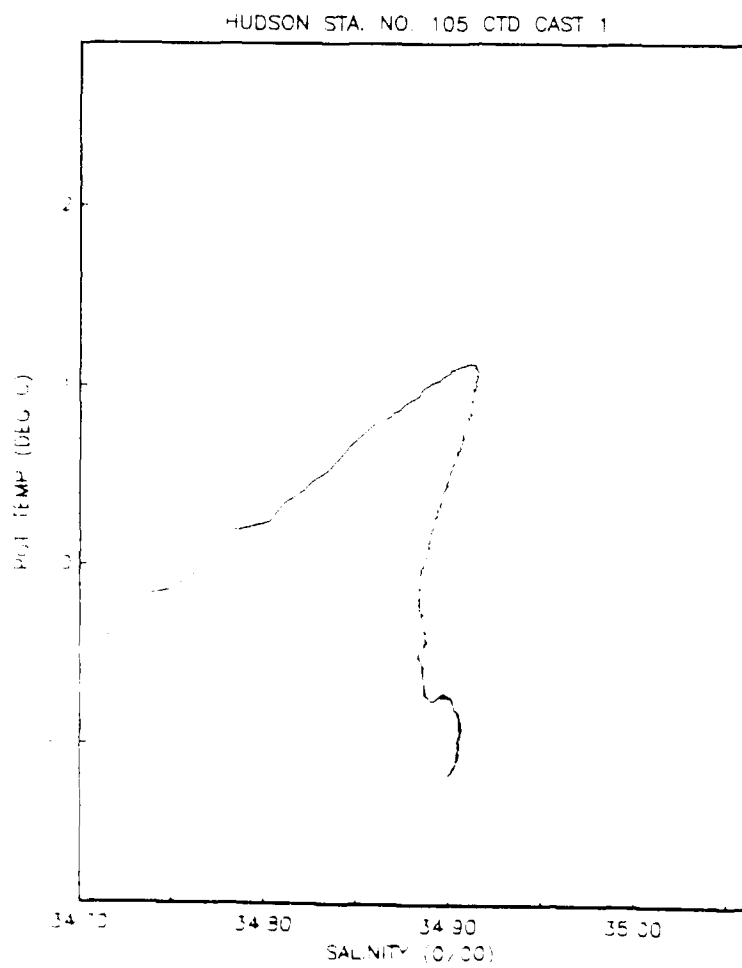
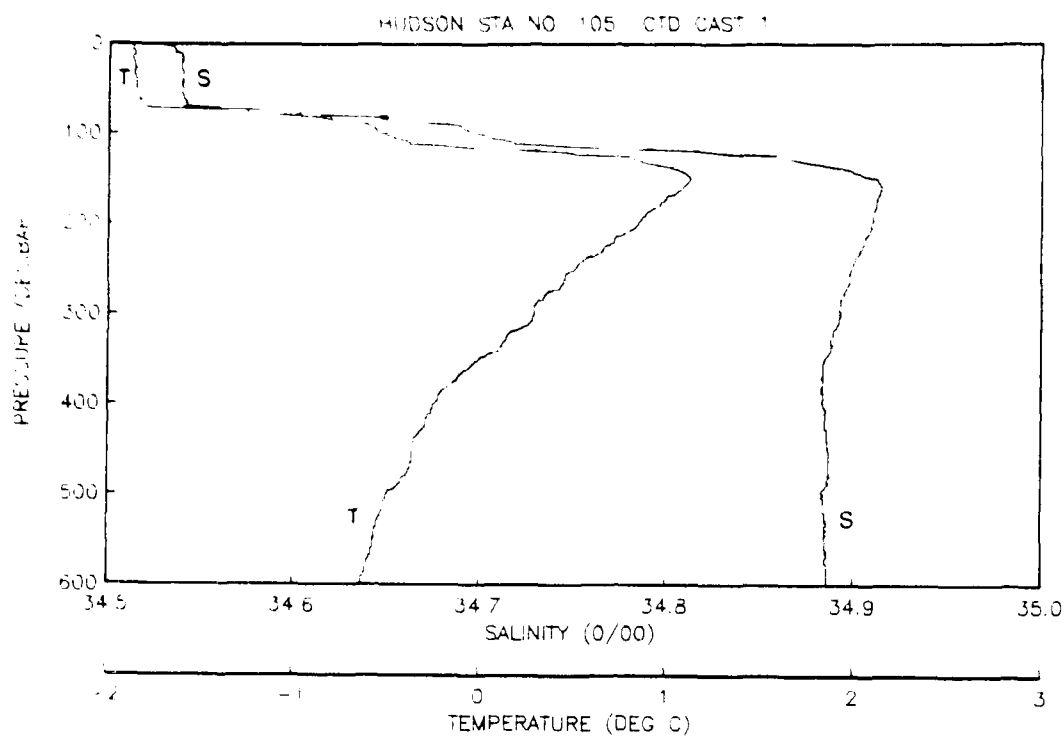




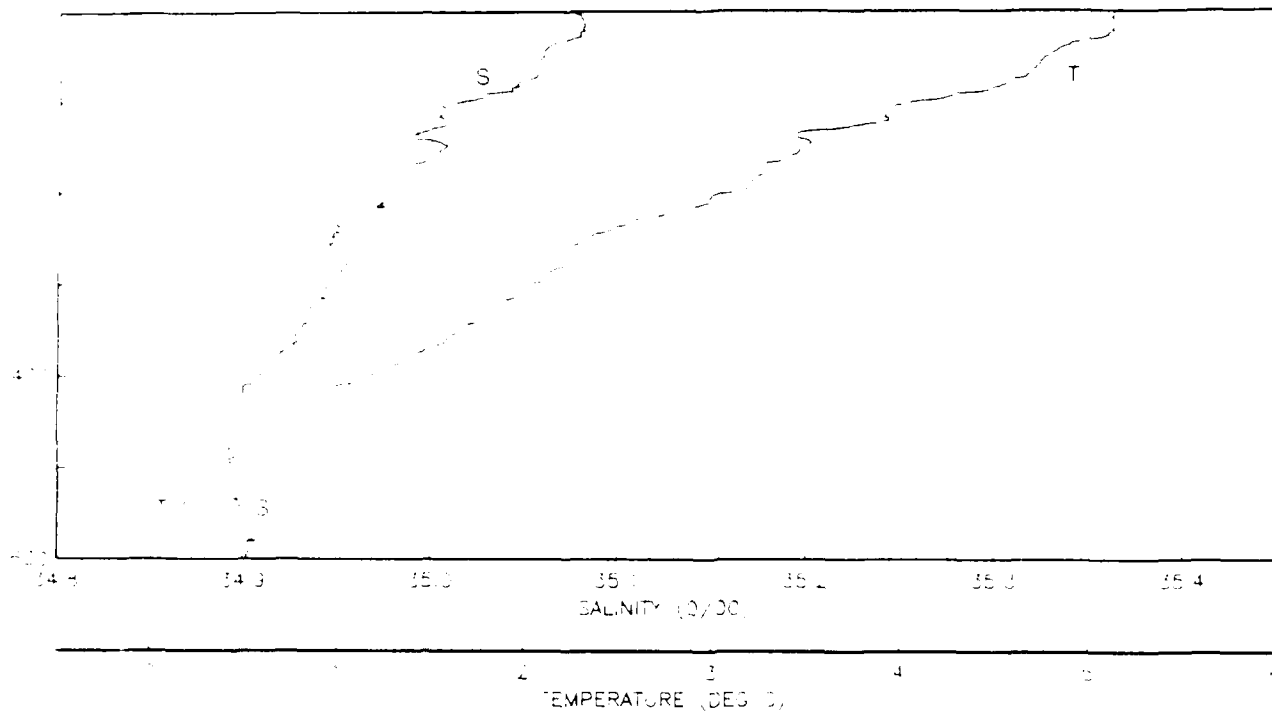




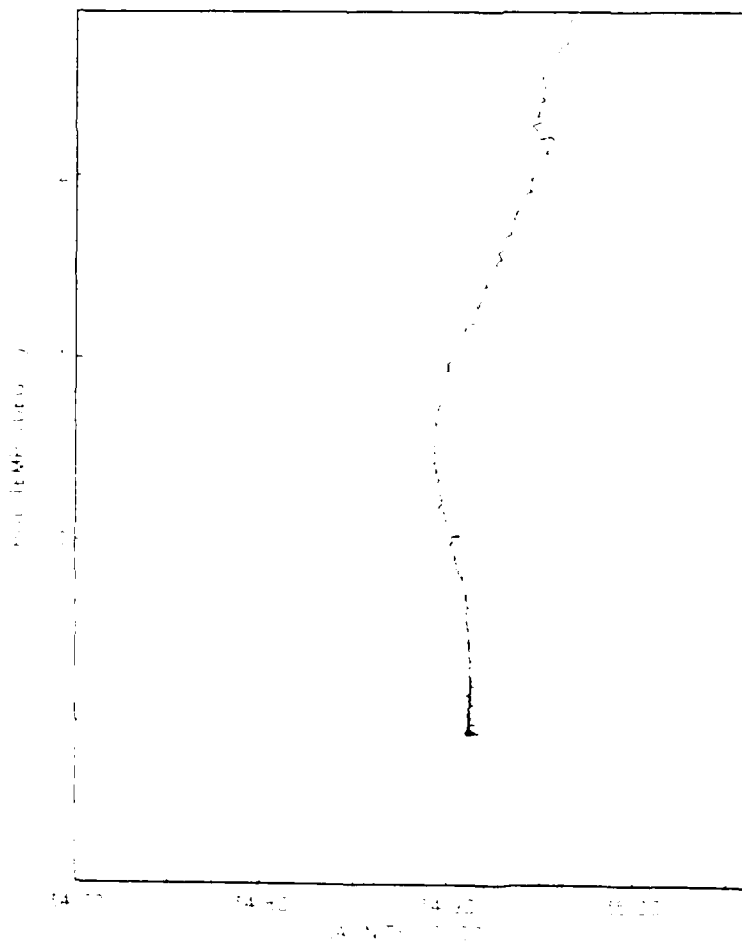


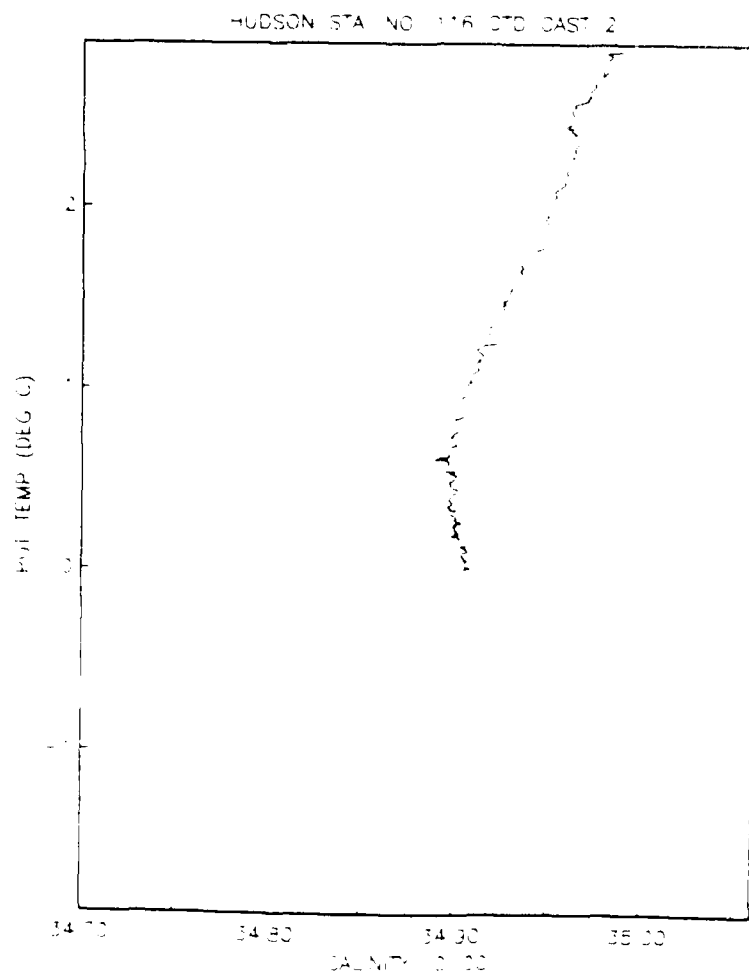
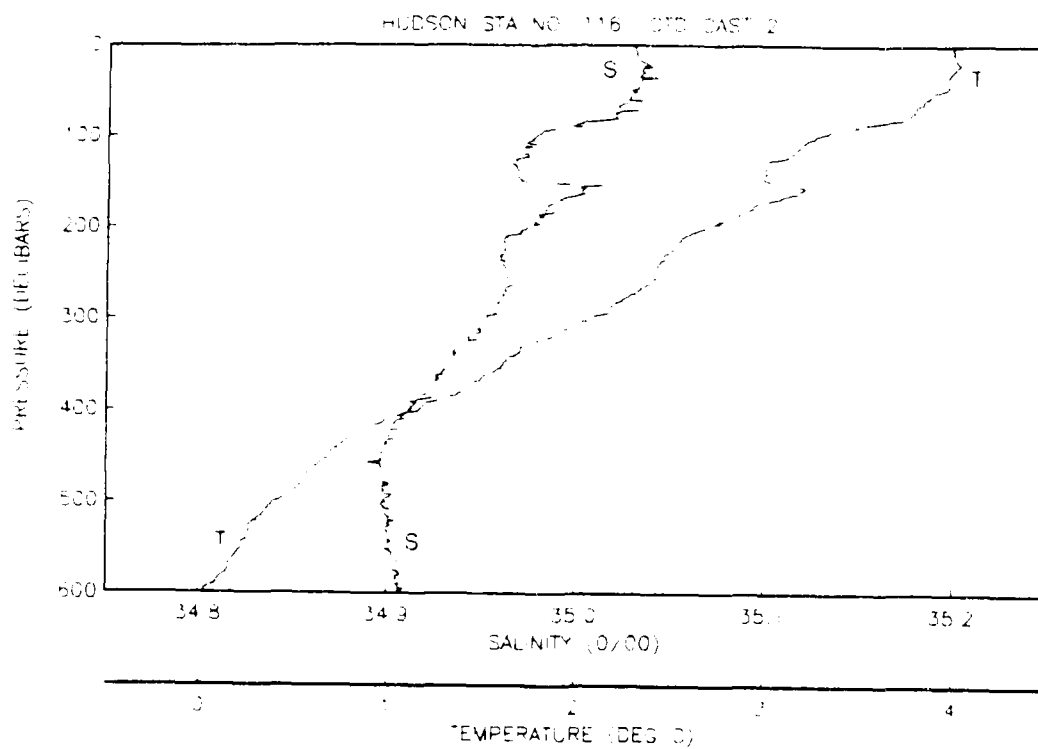


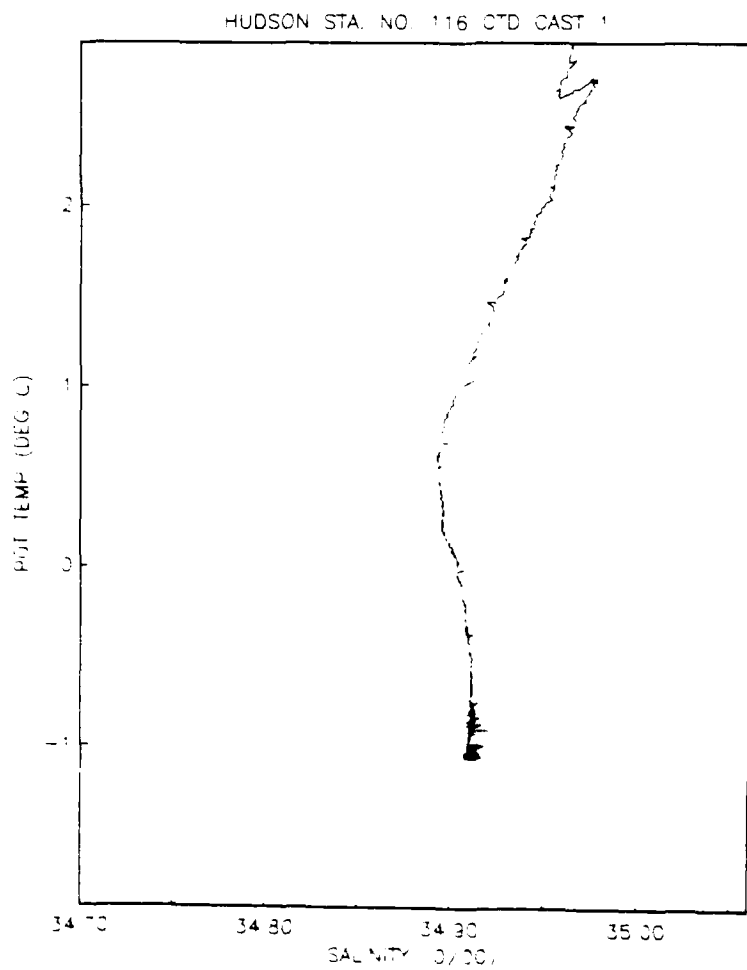
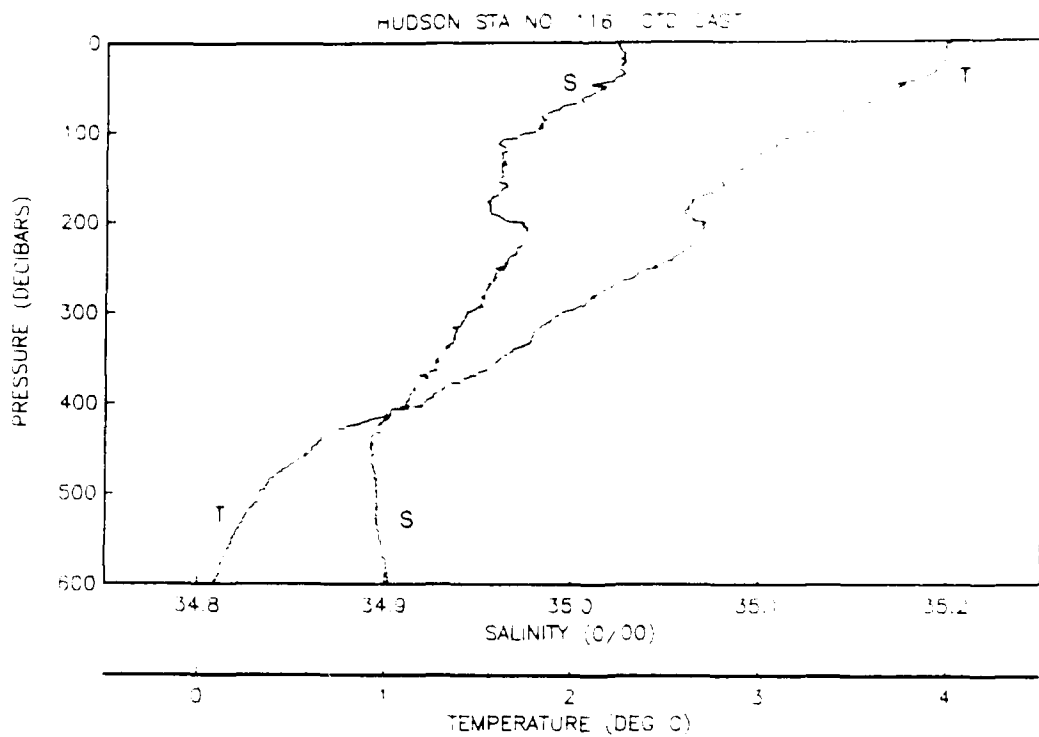
HUDSON STA NO 117 STD CAST 1

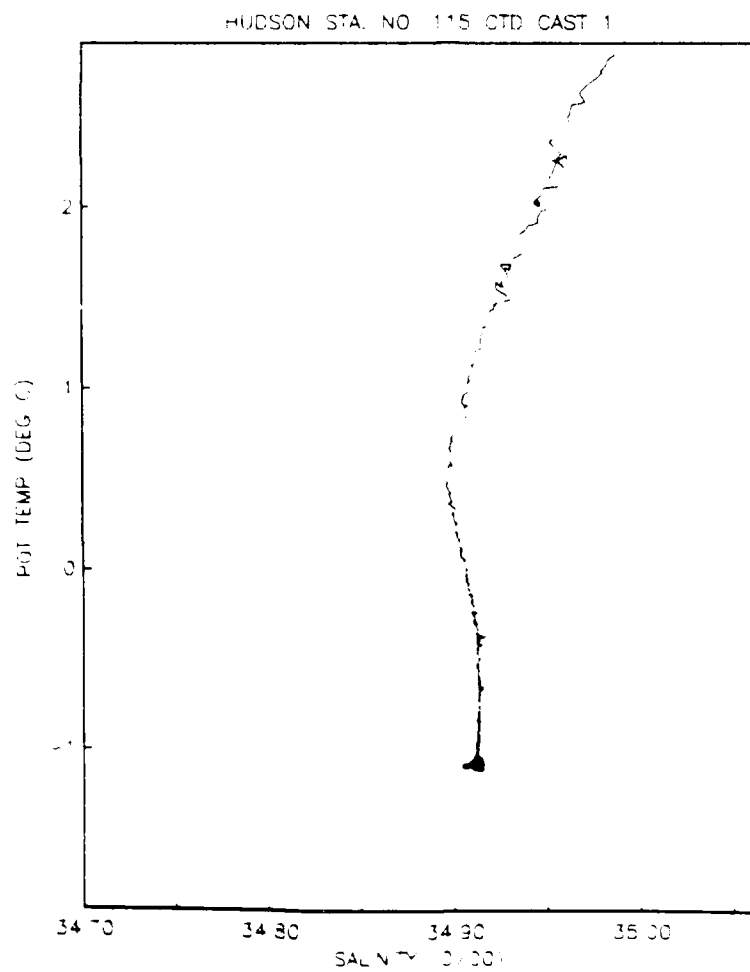
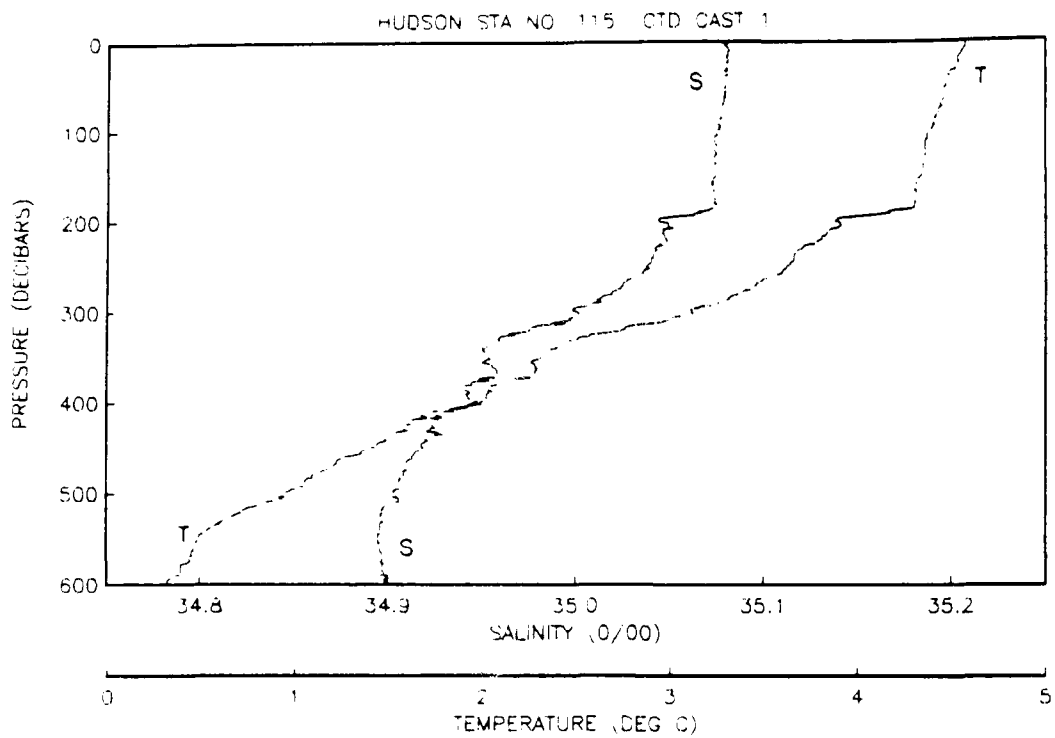


HUDSON STA NO 117 STD CAST 1

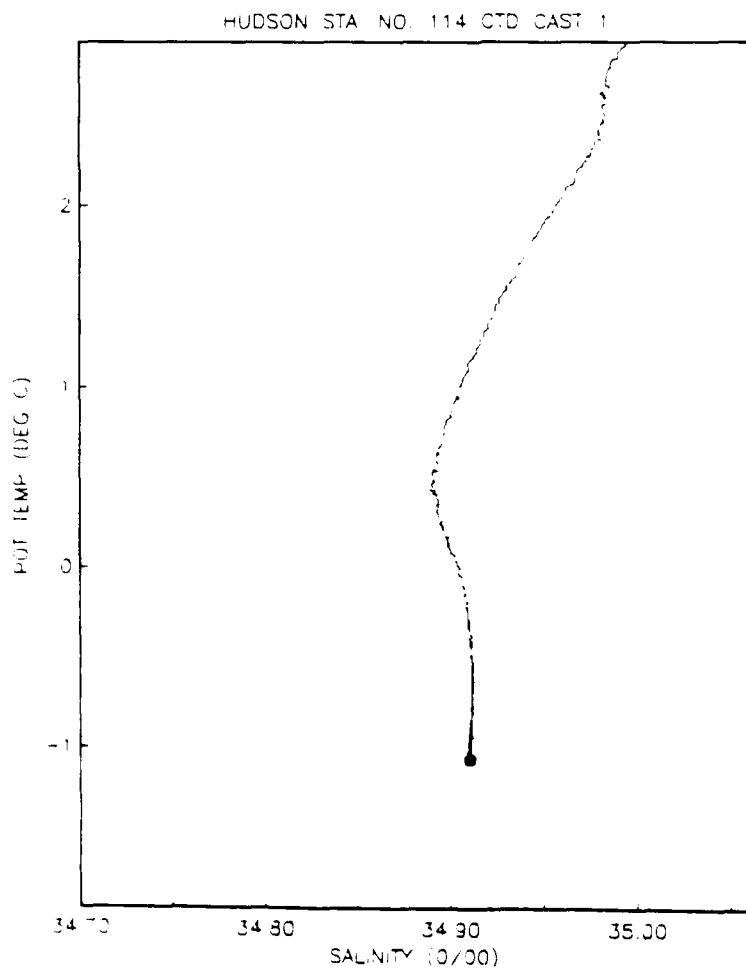
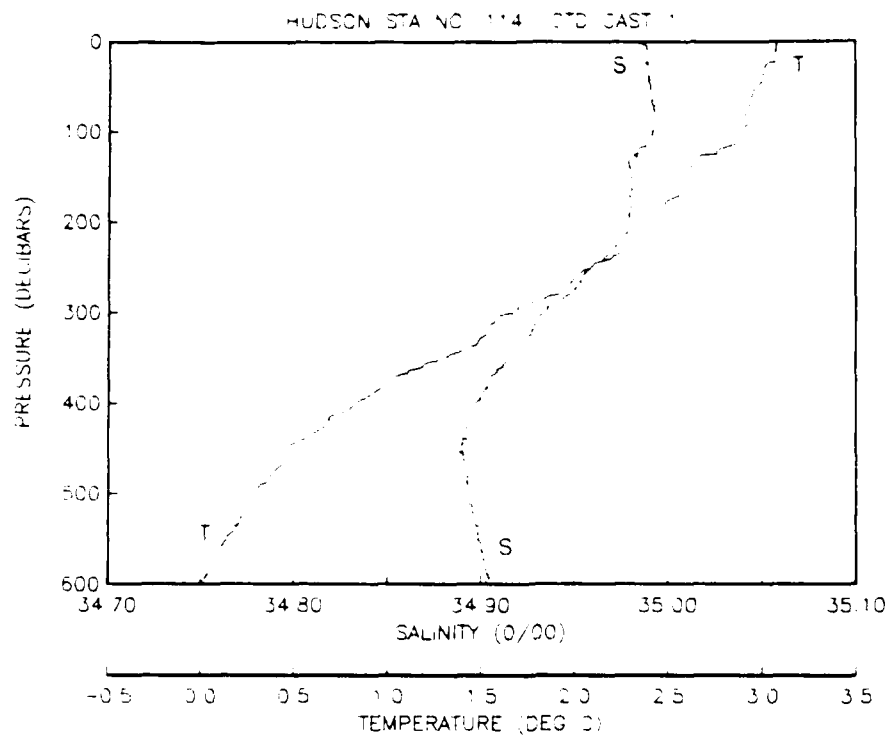


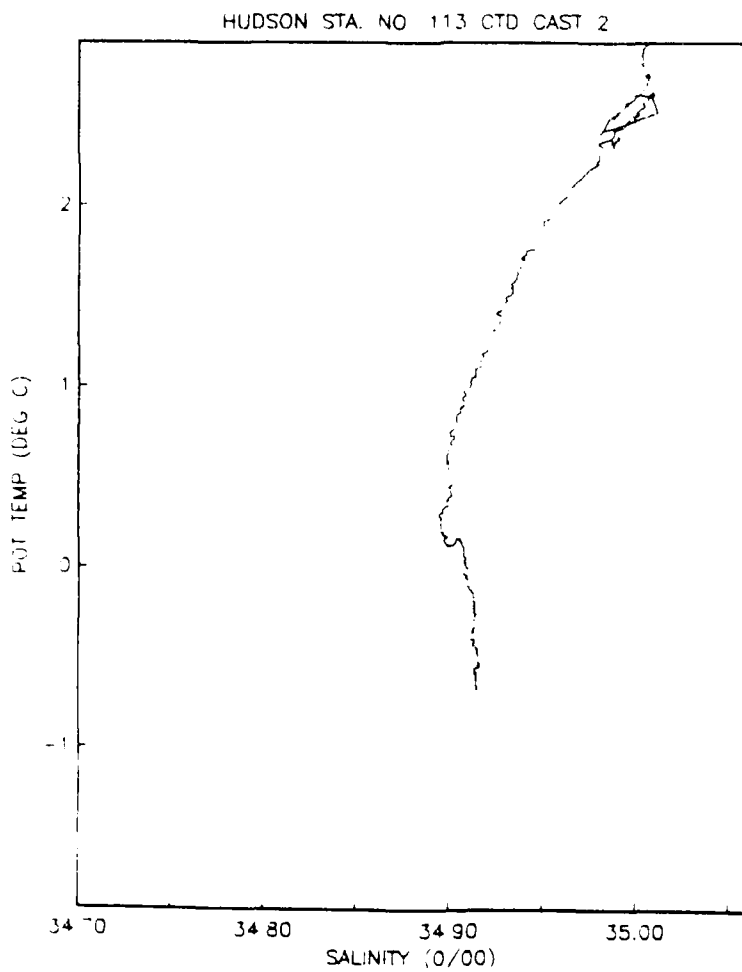
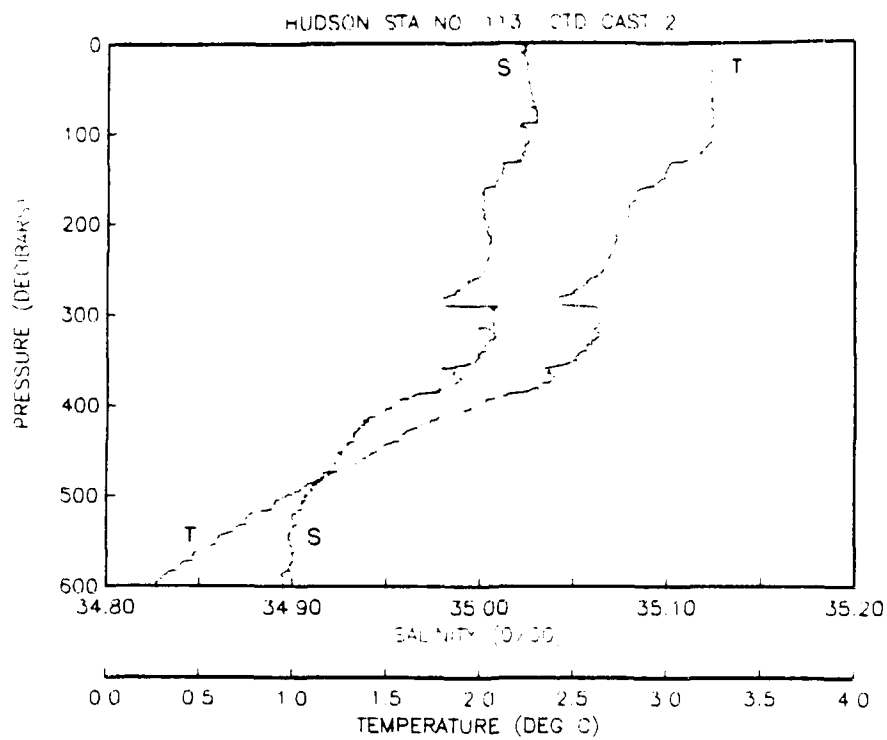


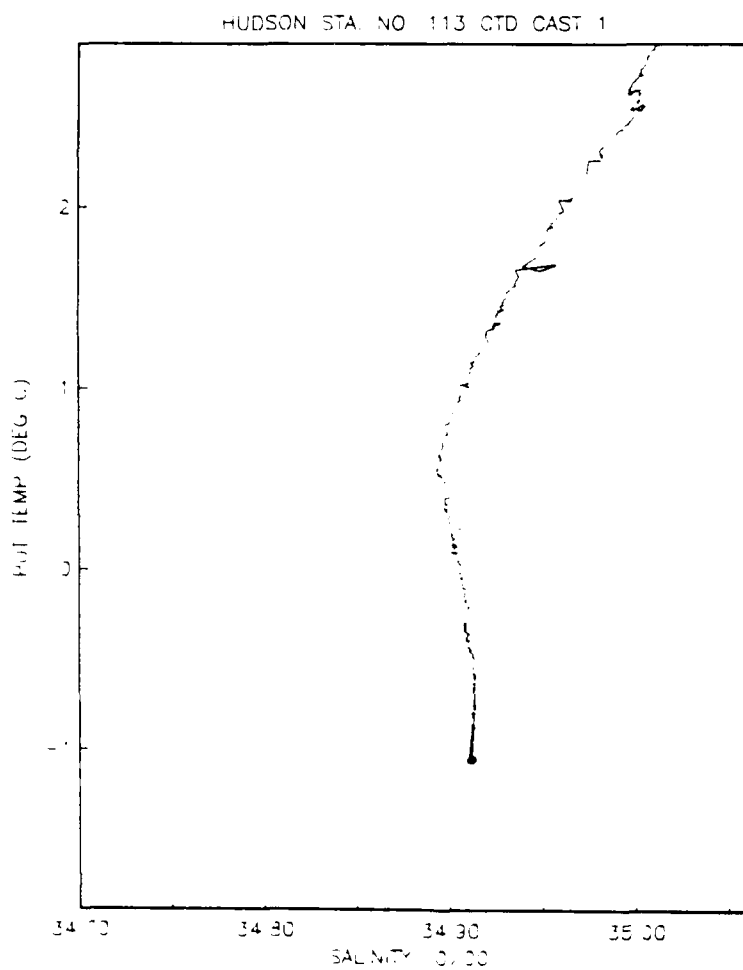
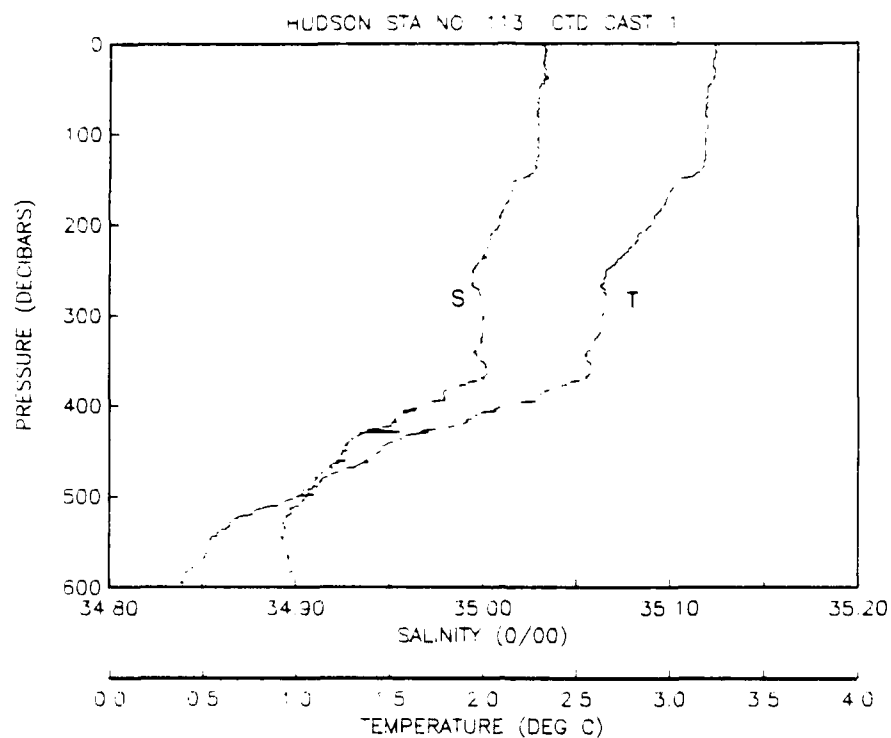


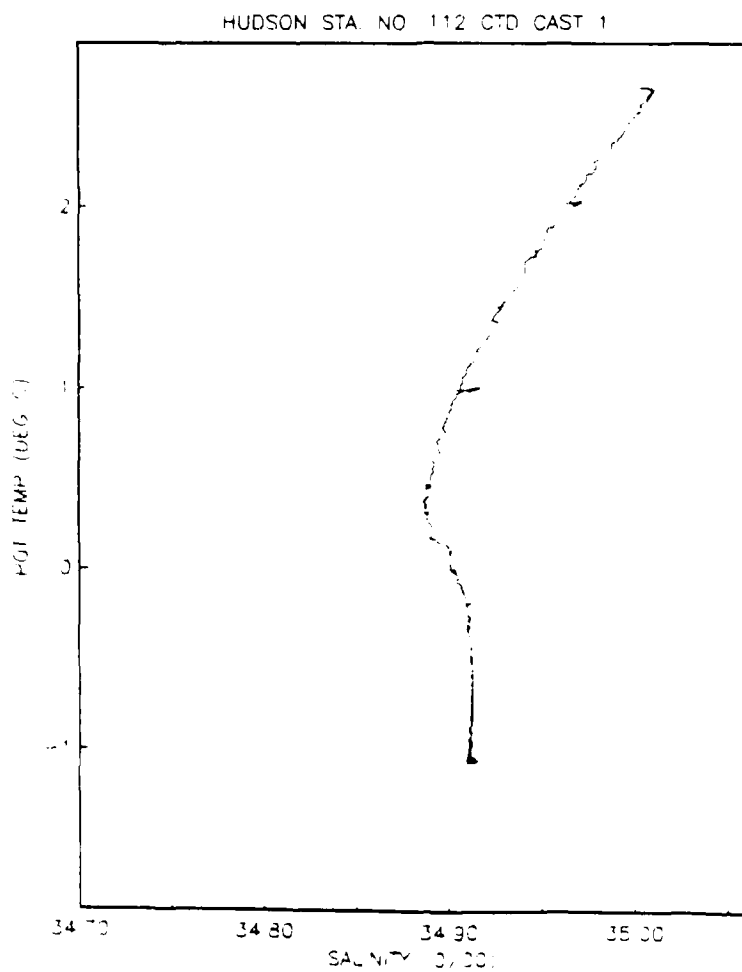
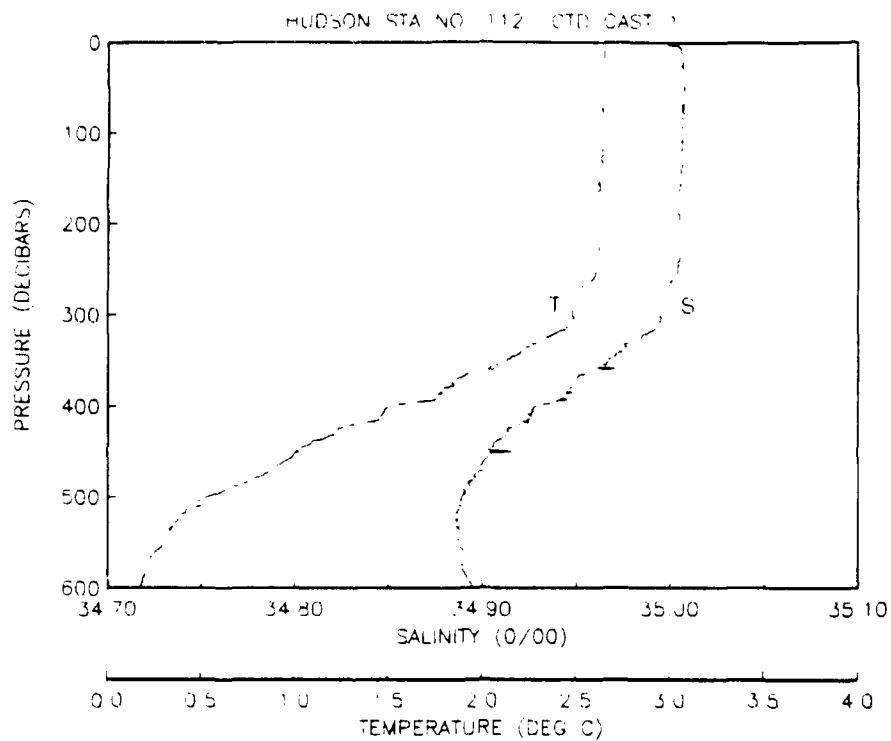


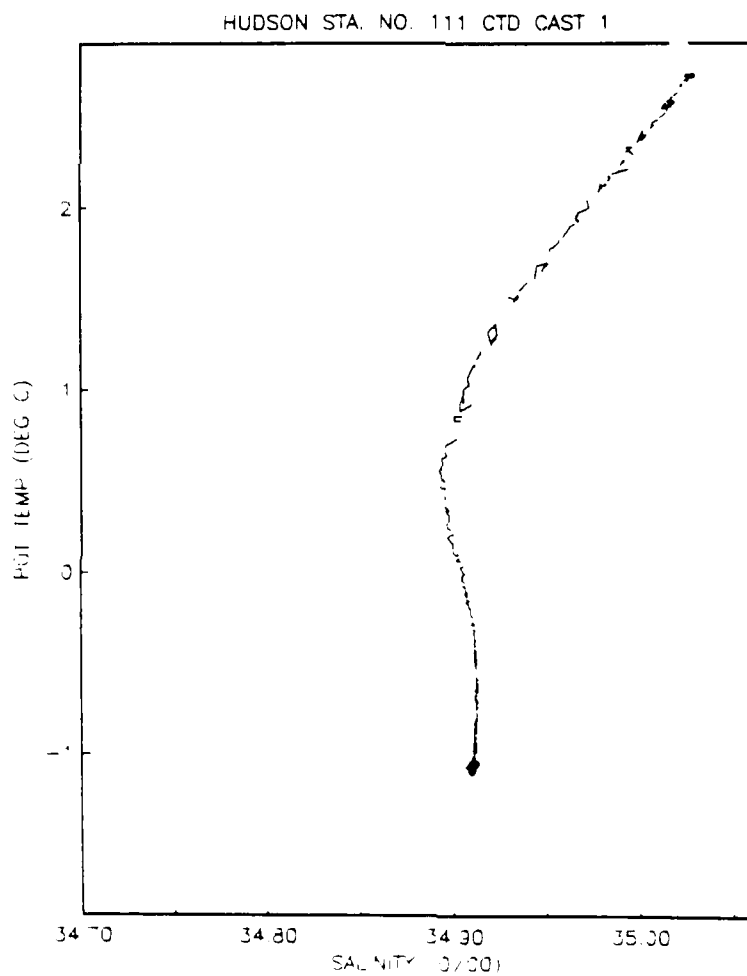
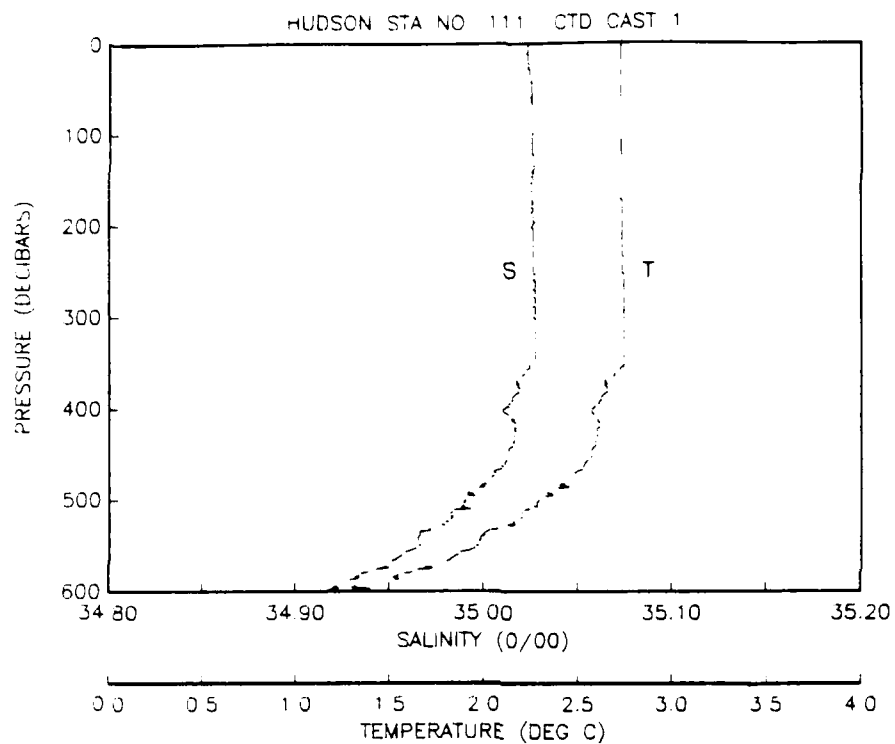


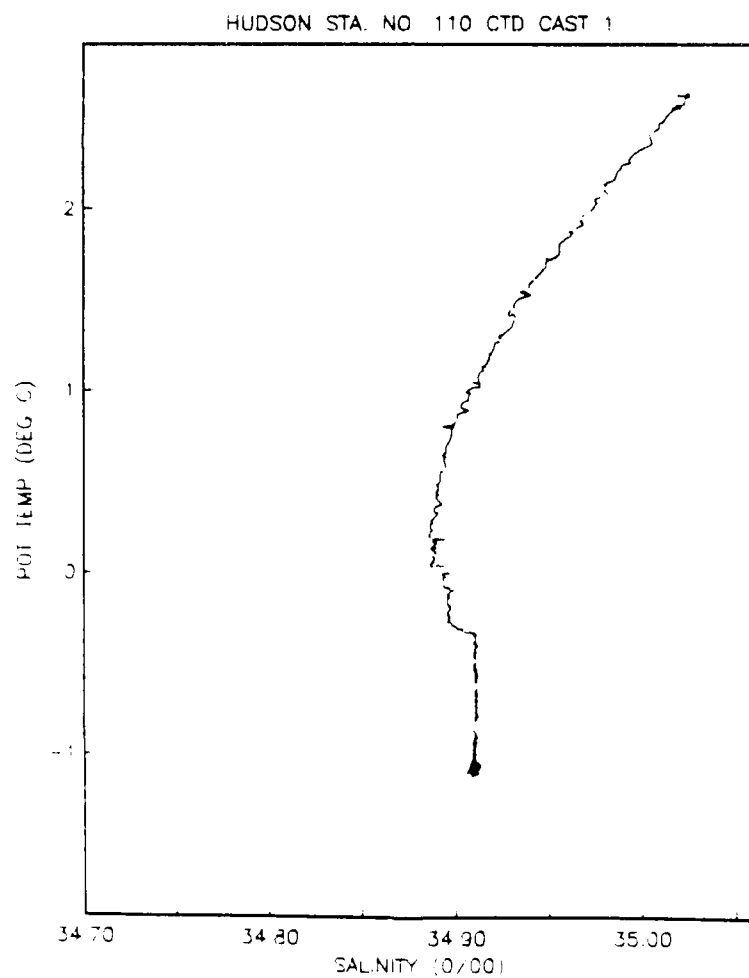
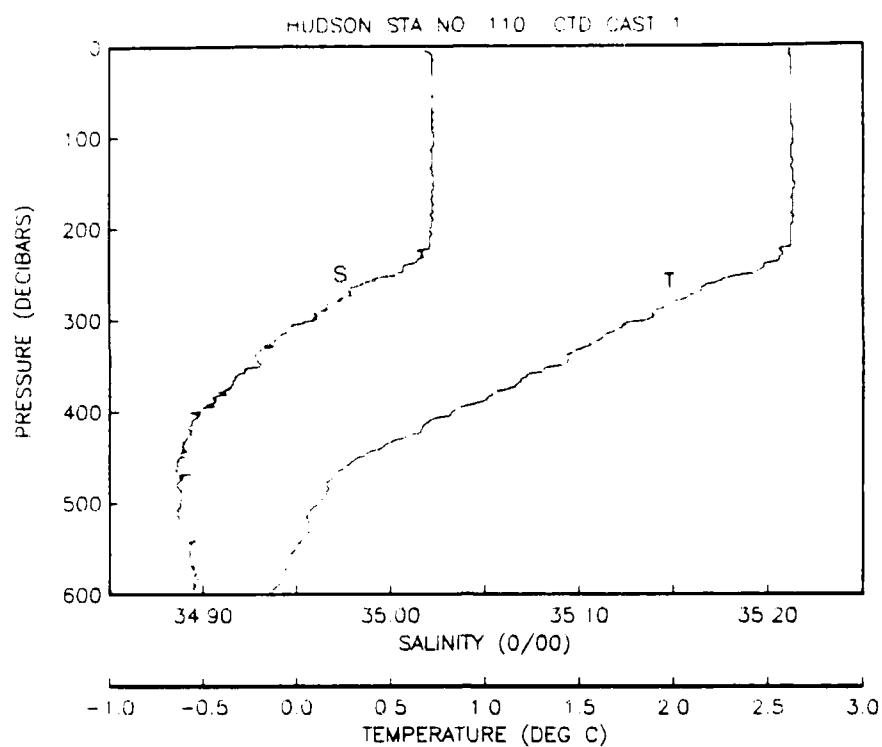




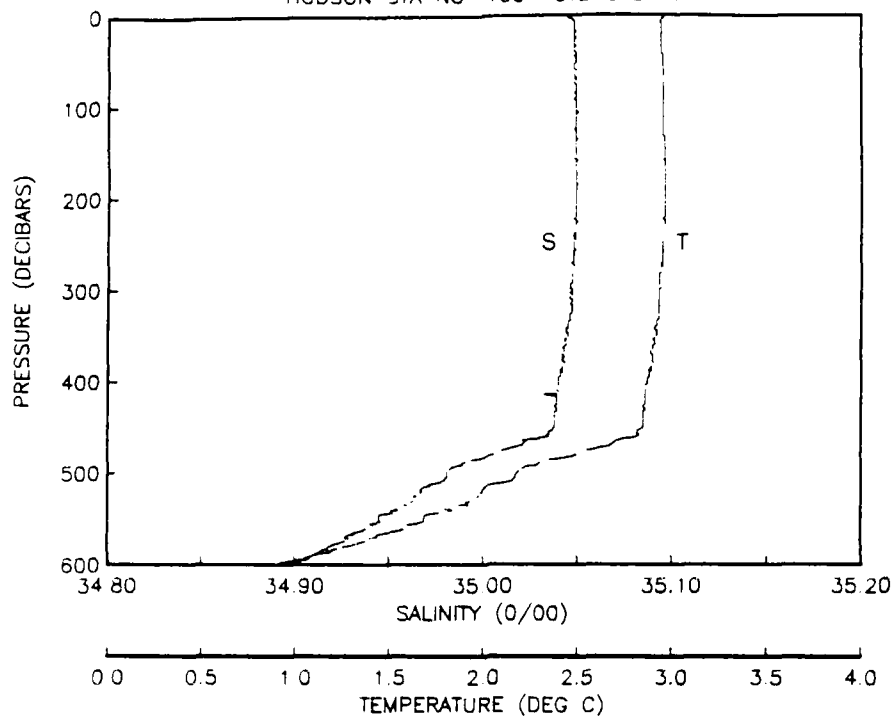




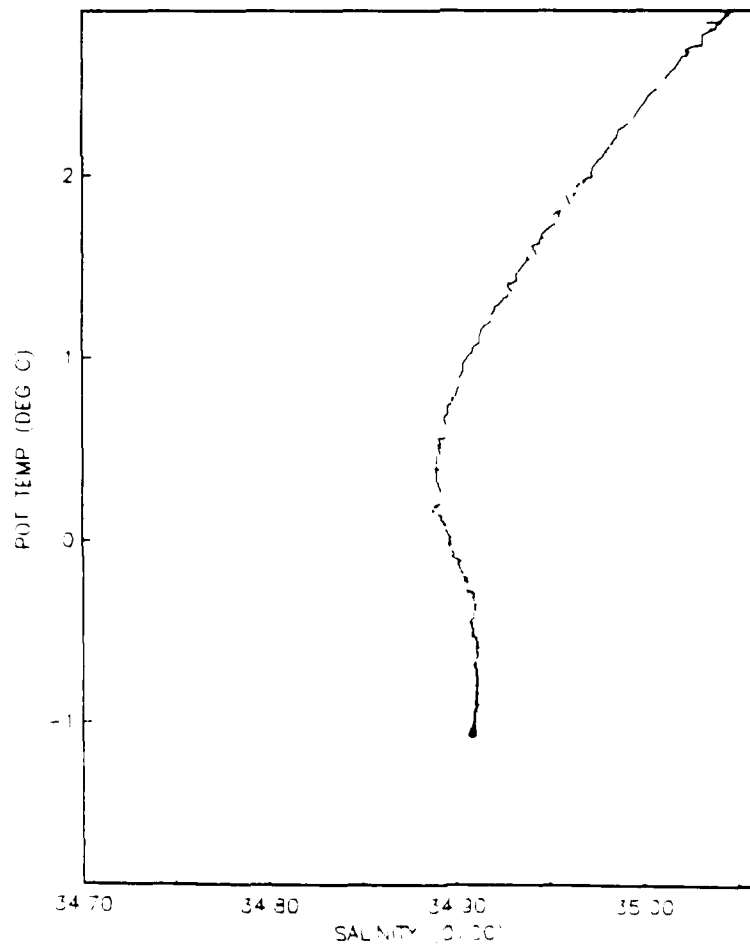


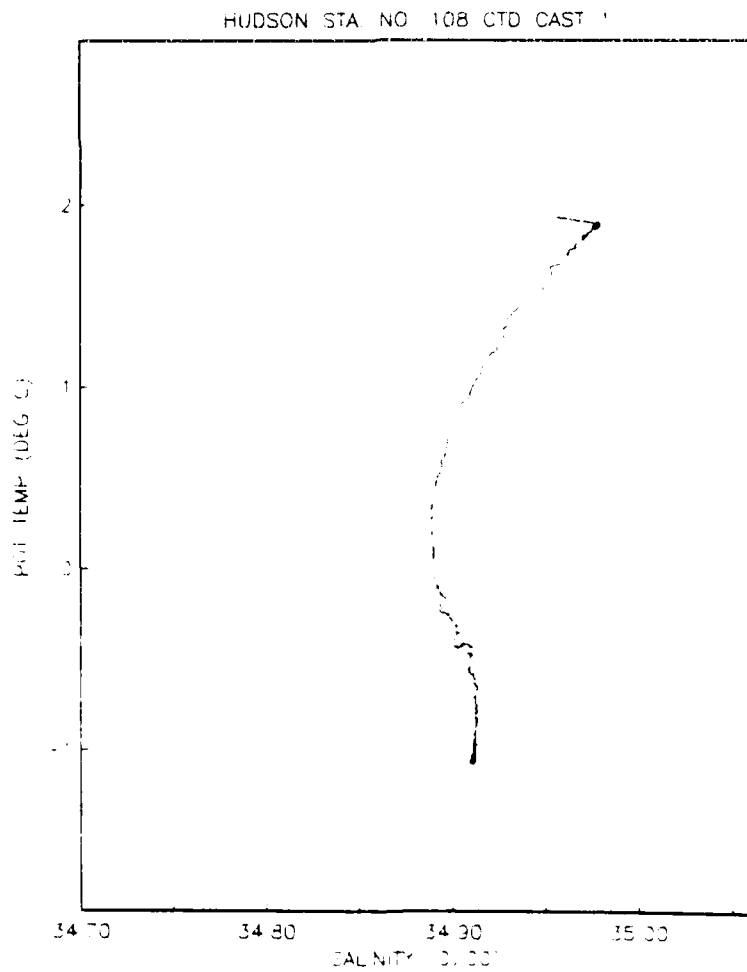
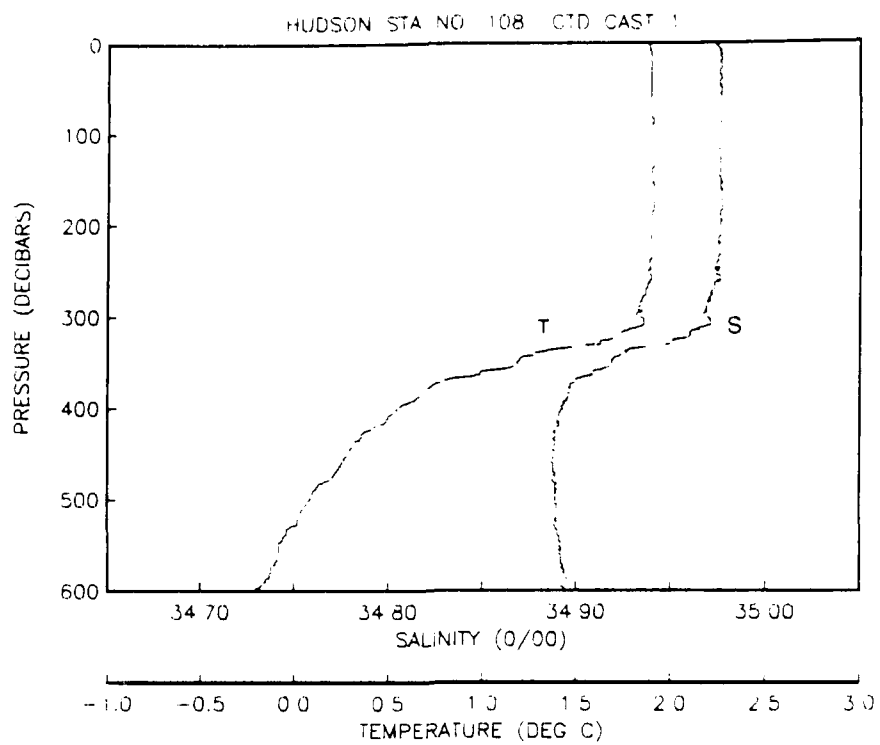


HUDSON STA NO 109 CTD CAST 1

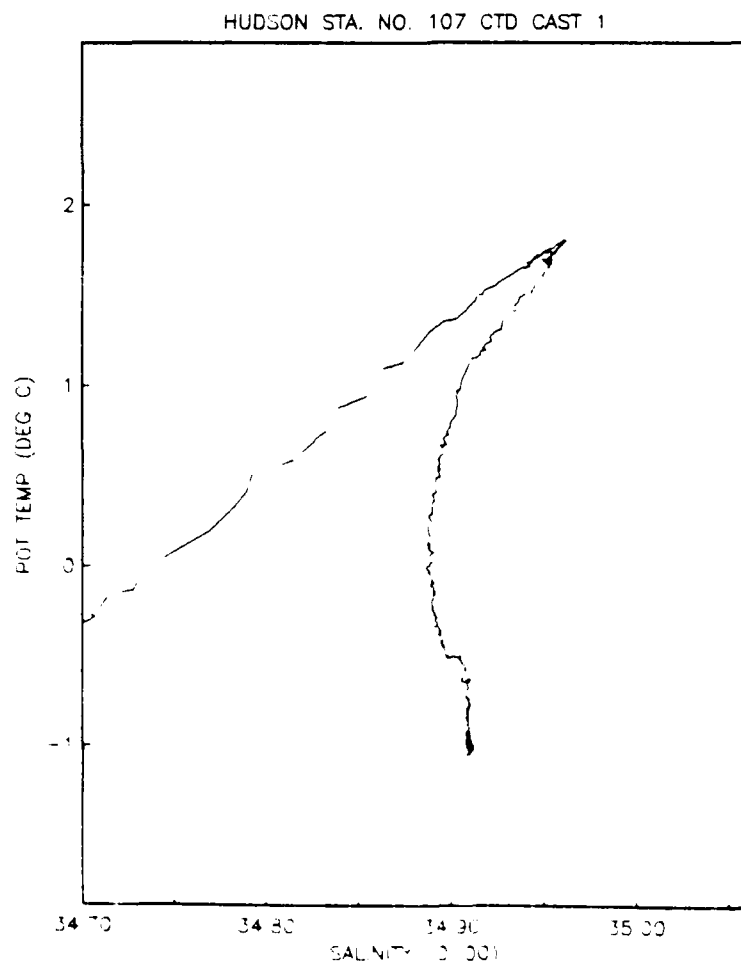
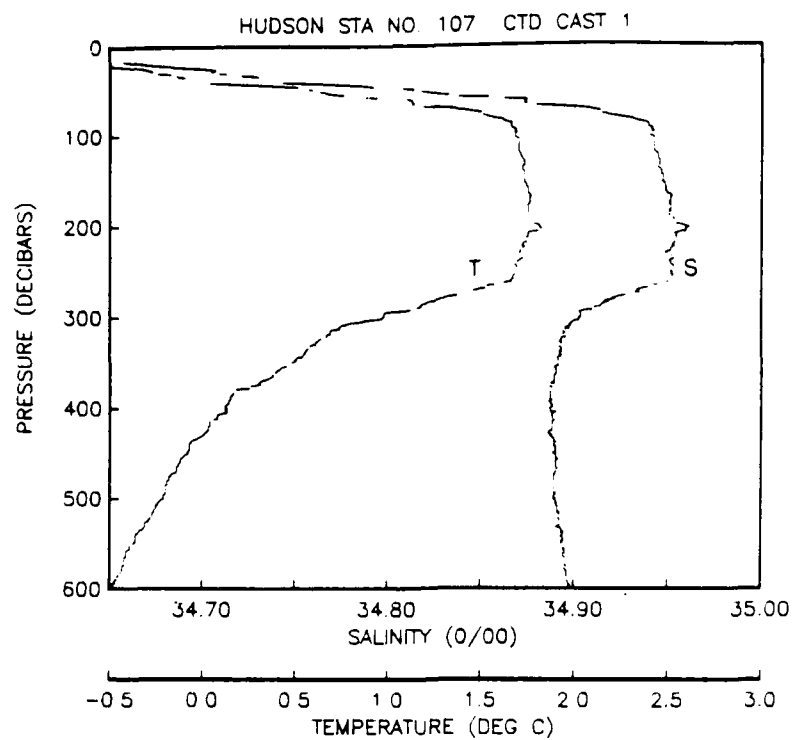


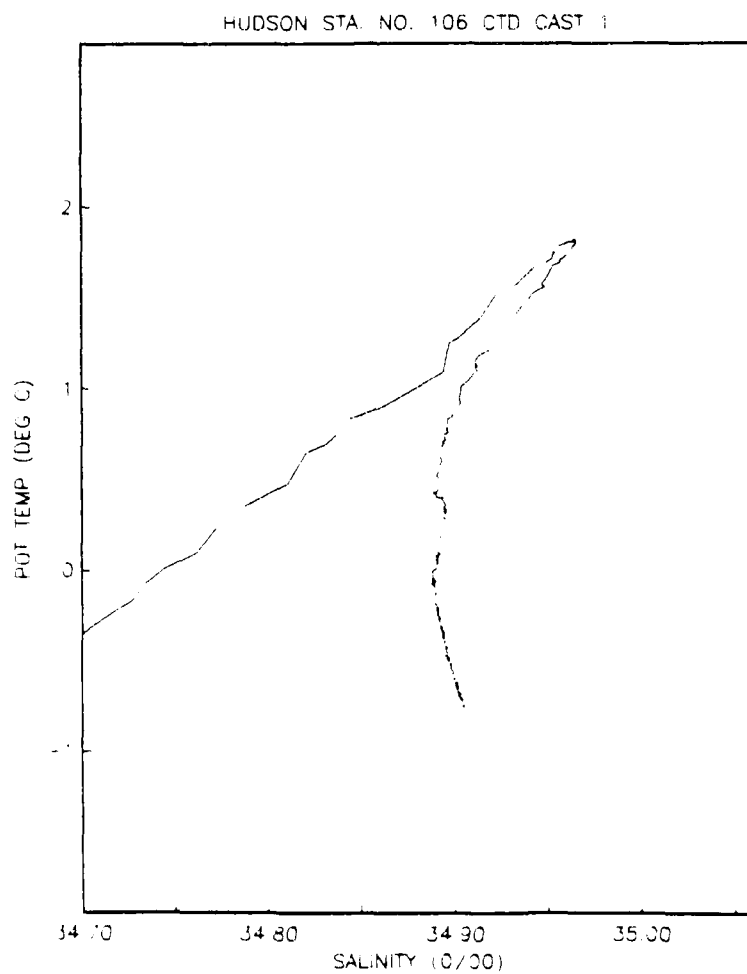
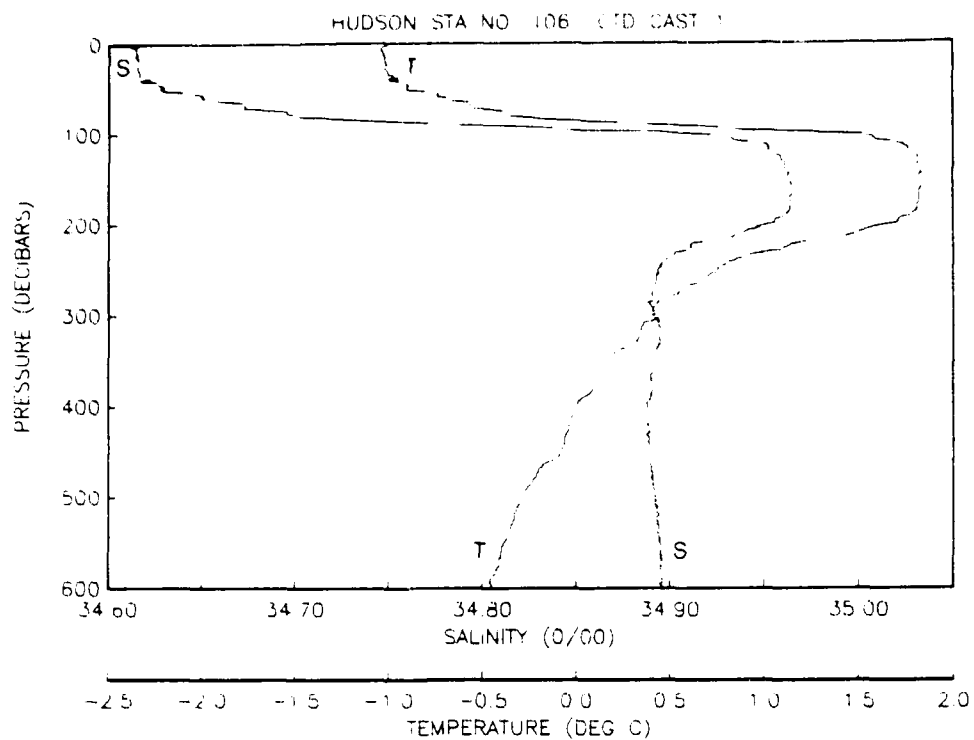
HUDSON STA. NO 109 CTD CAST 1

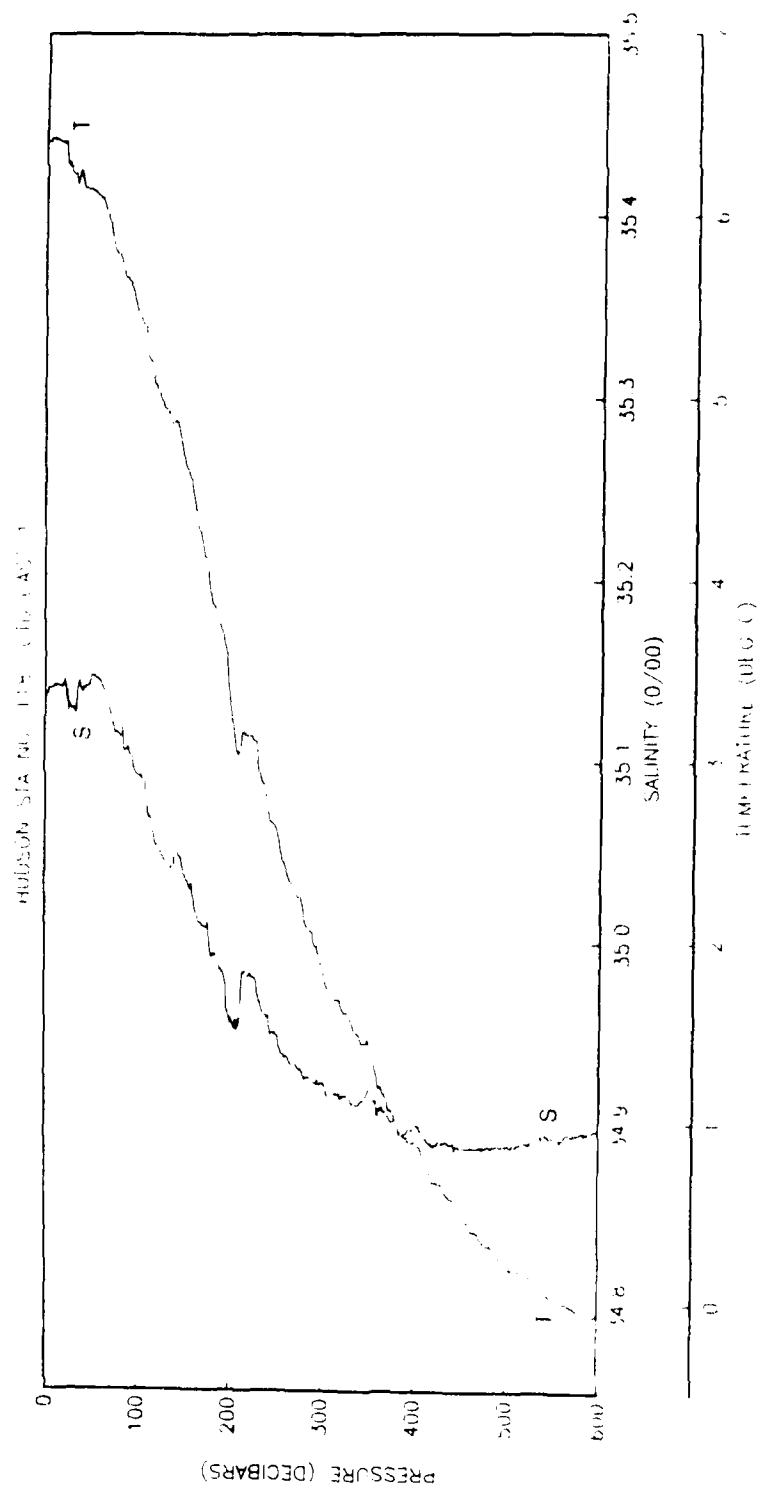


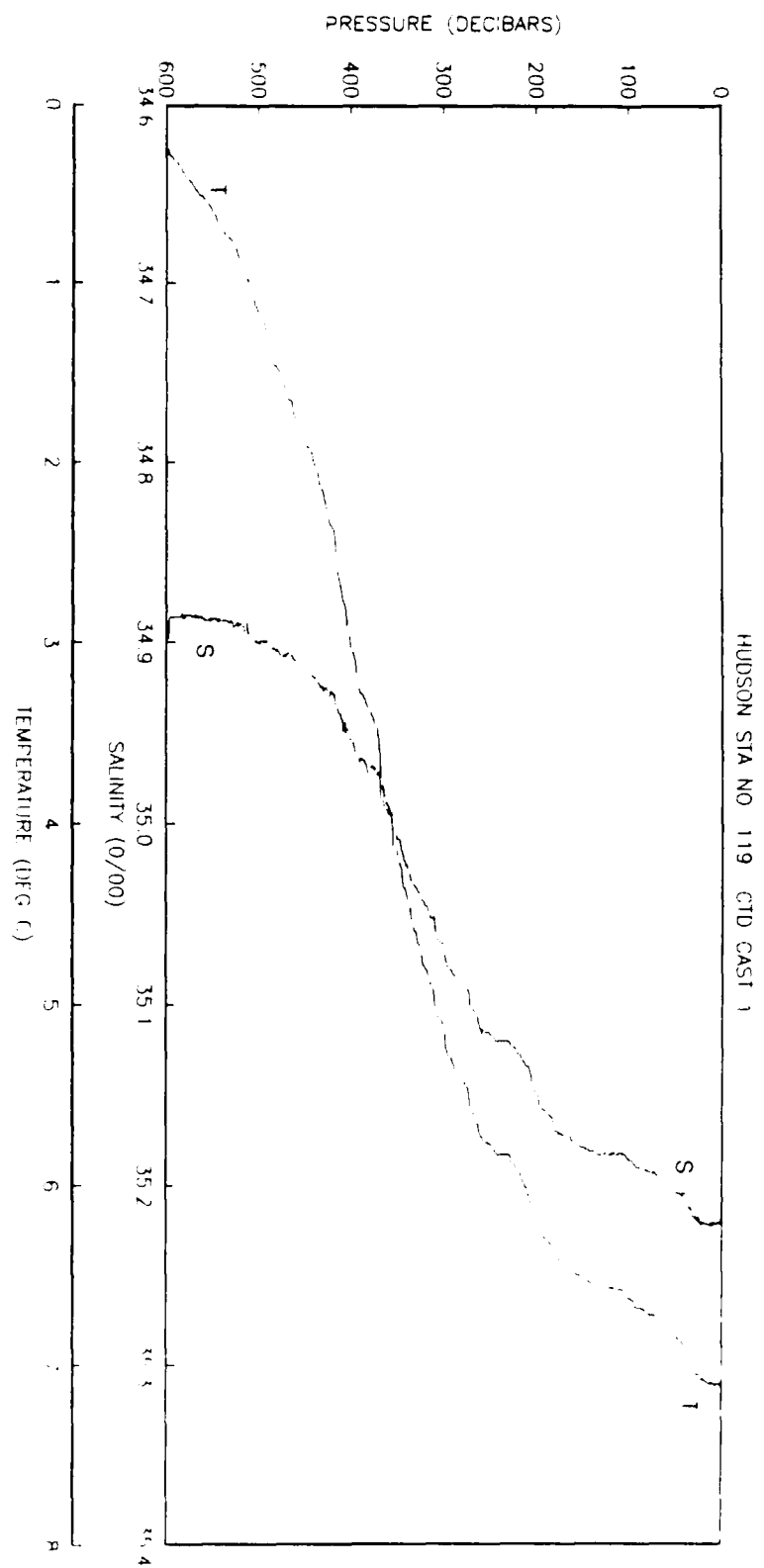


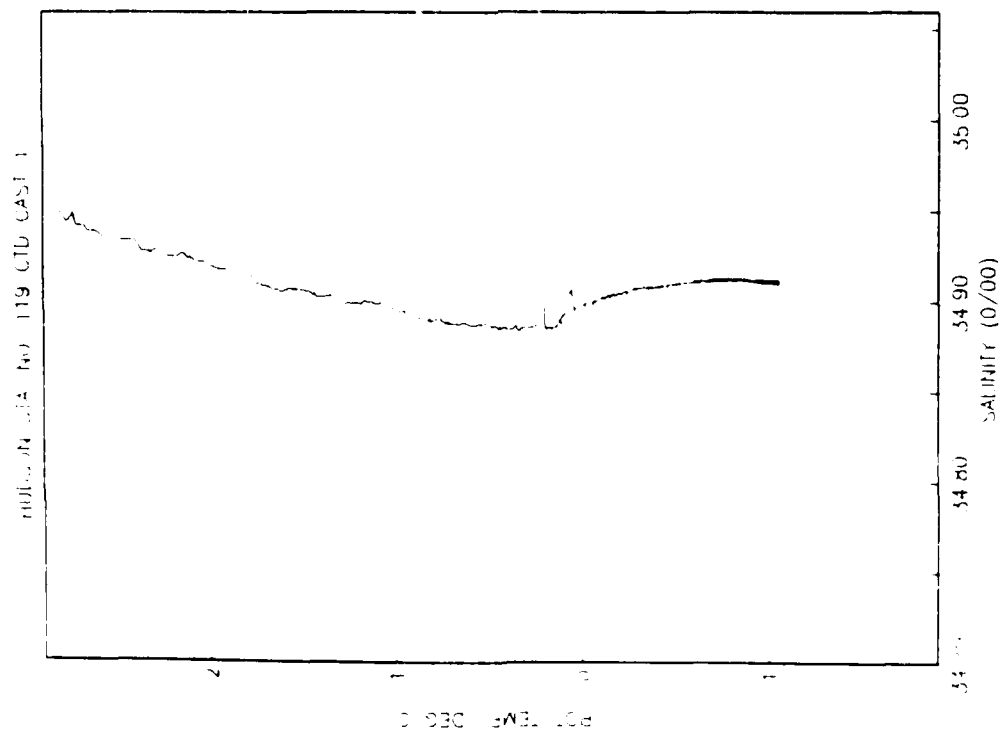
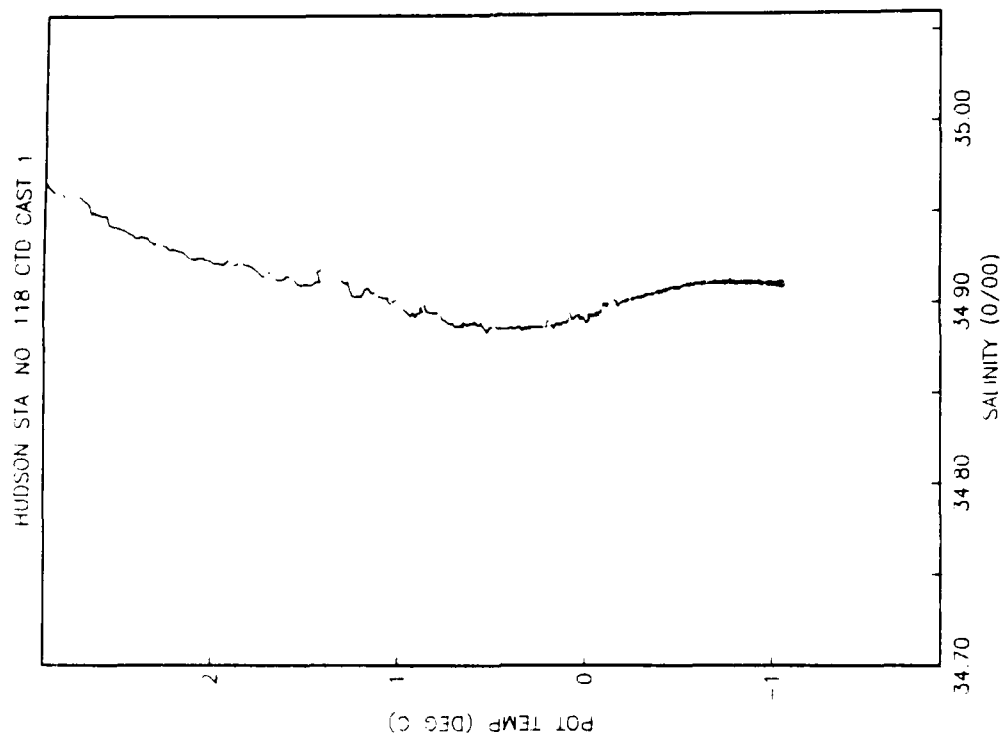


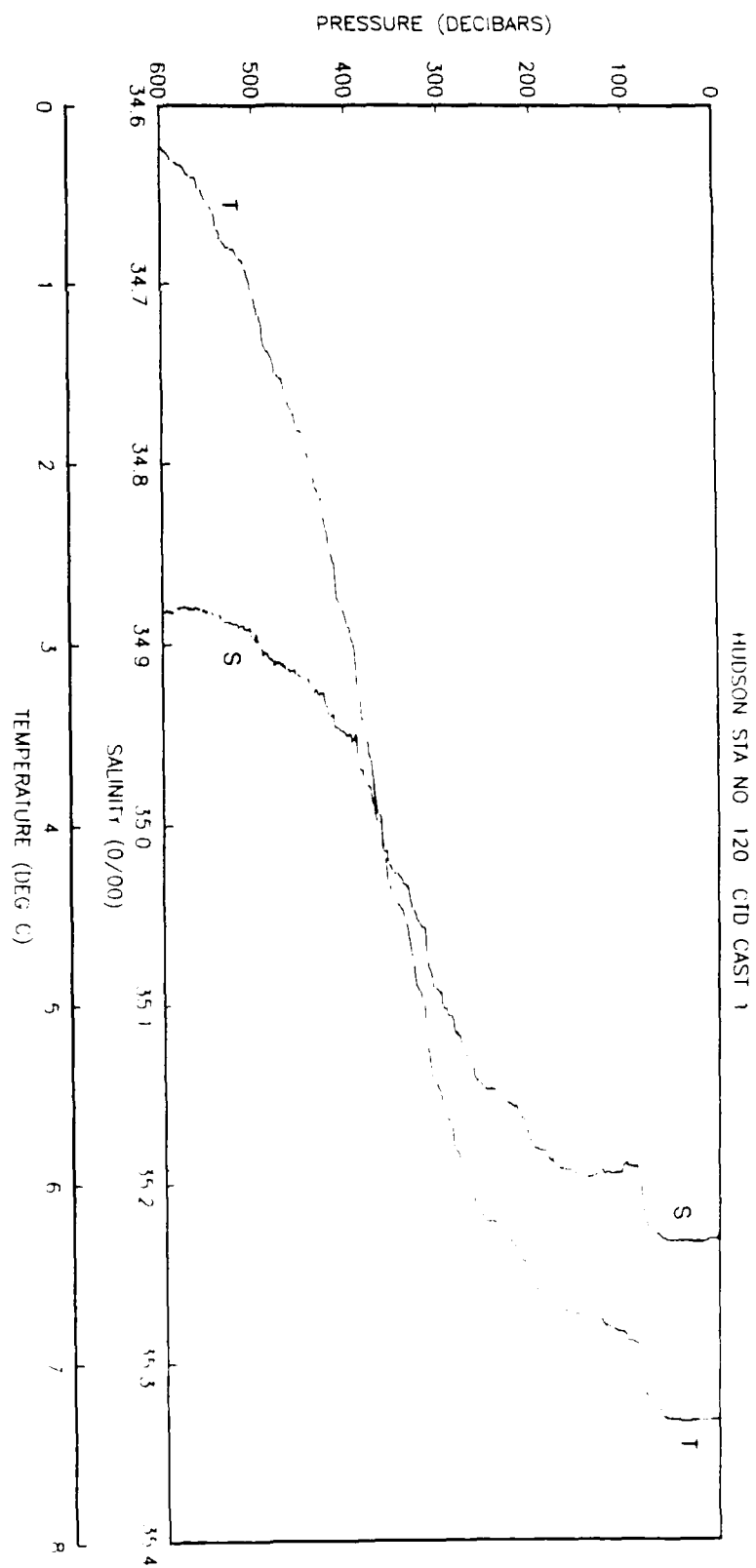




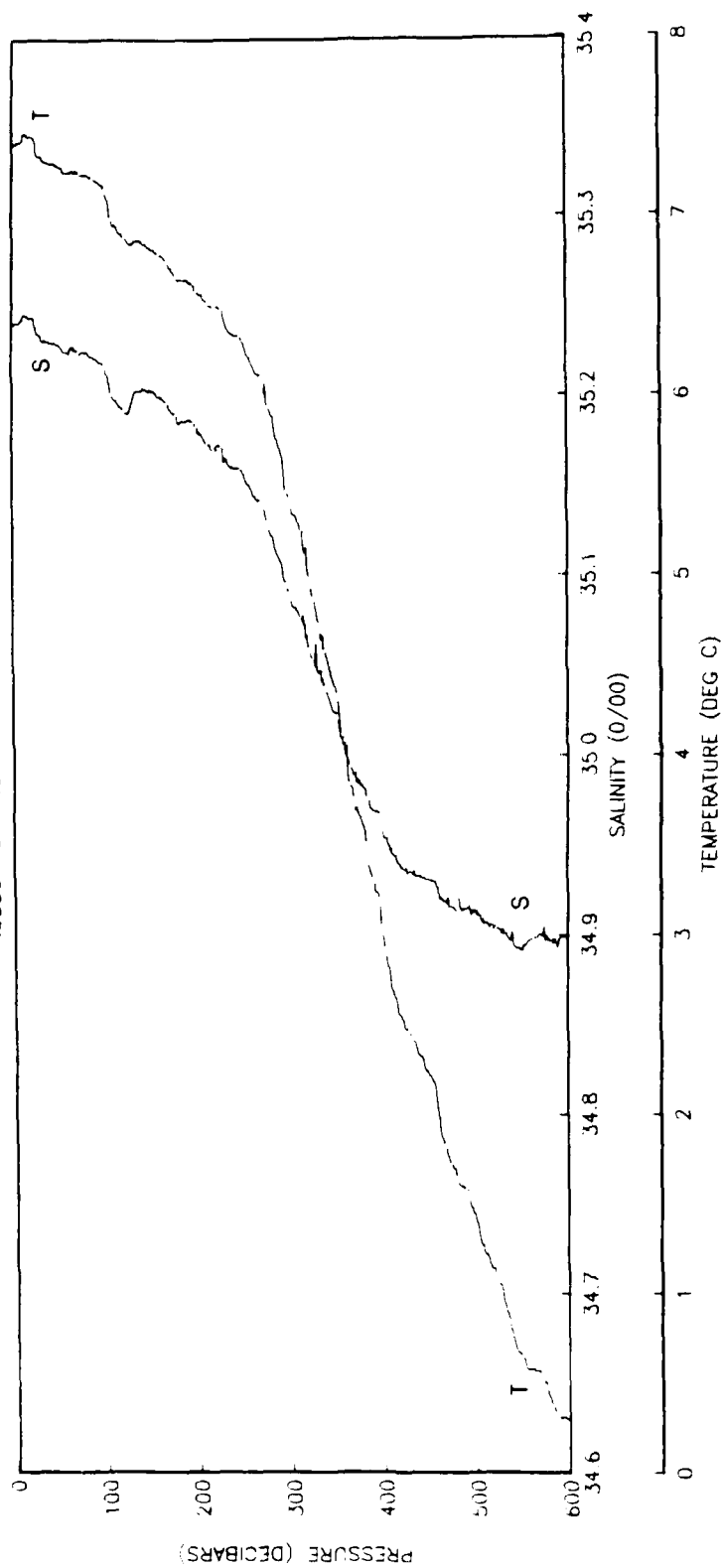


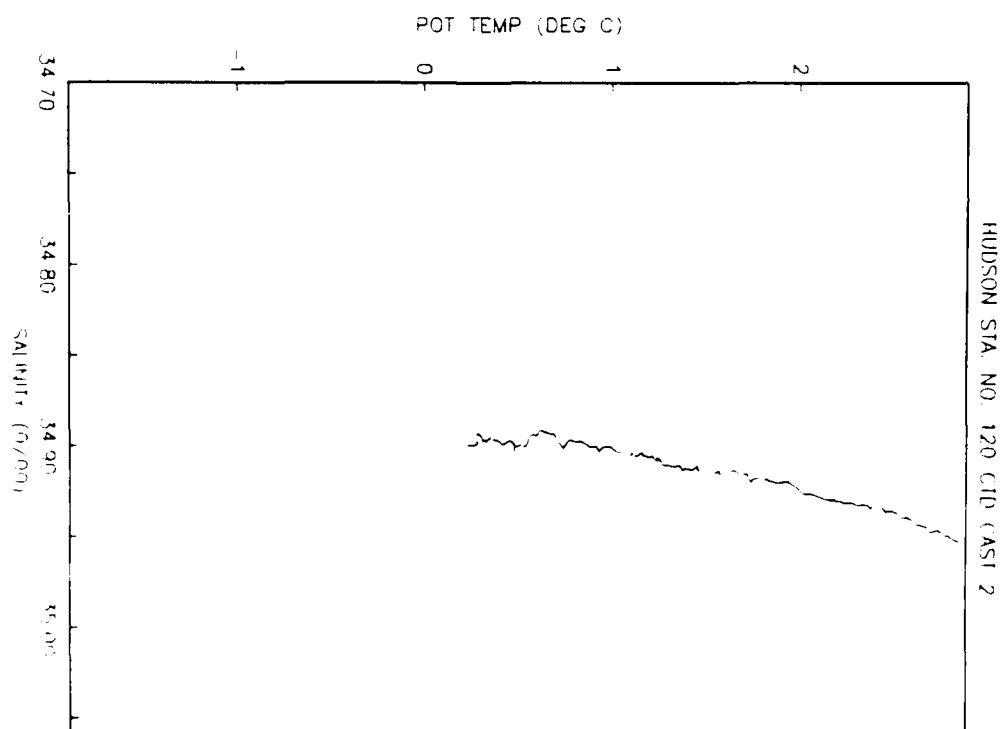
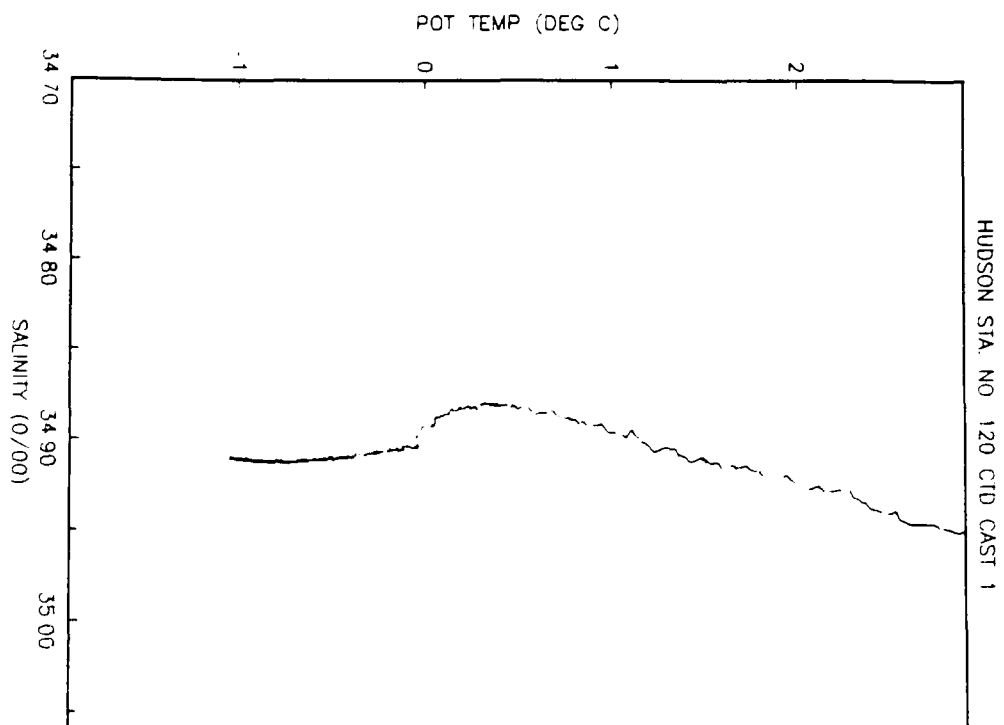






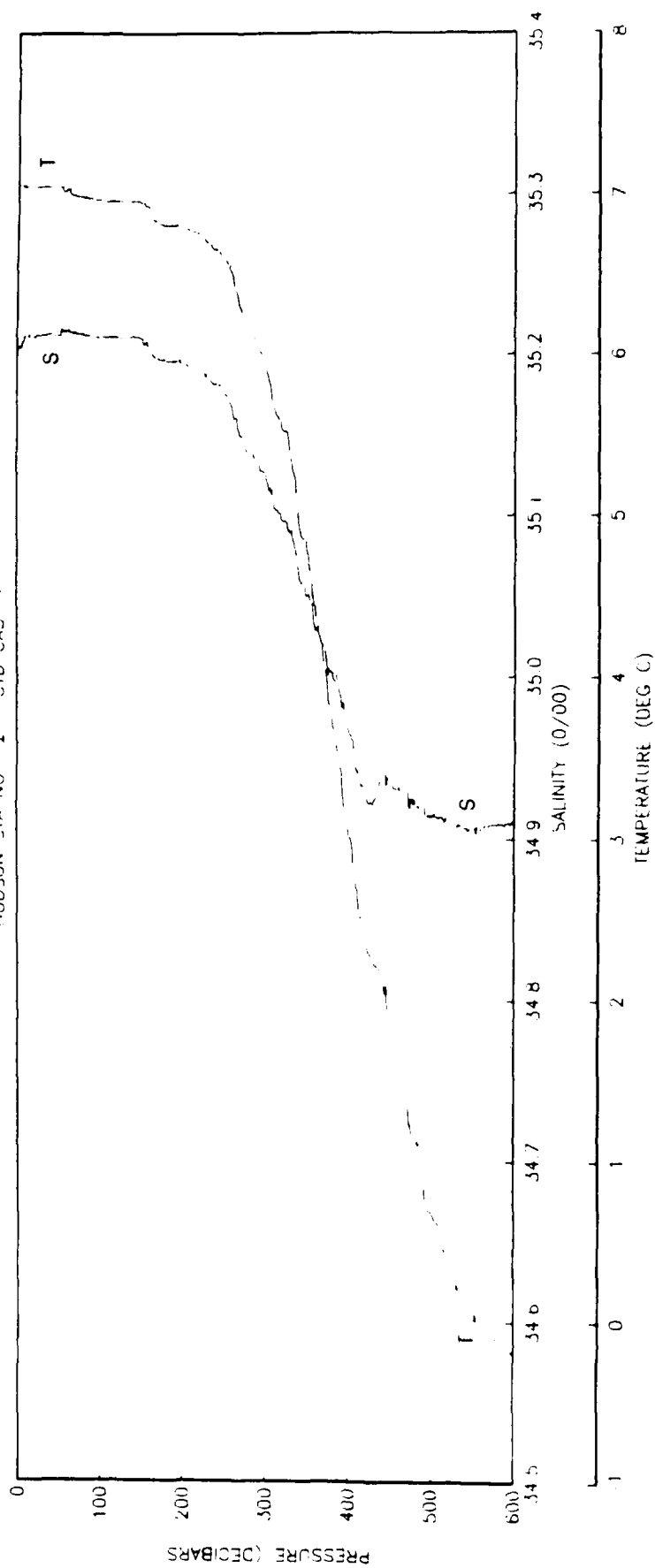
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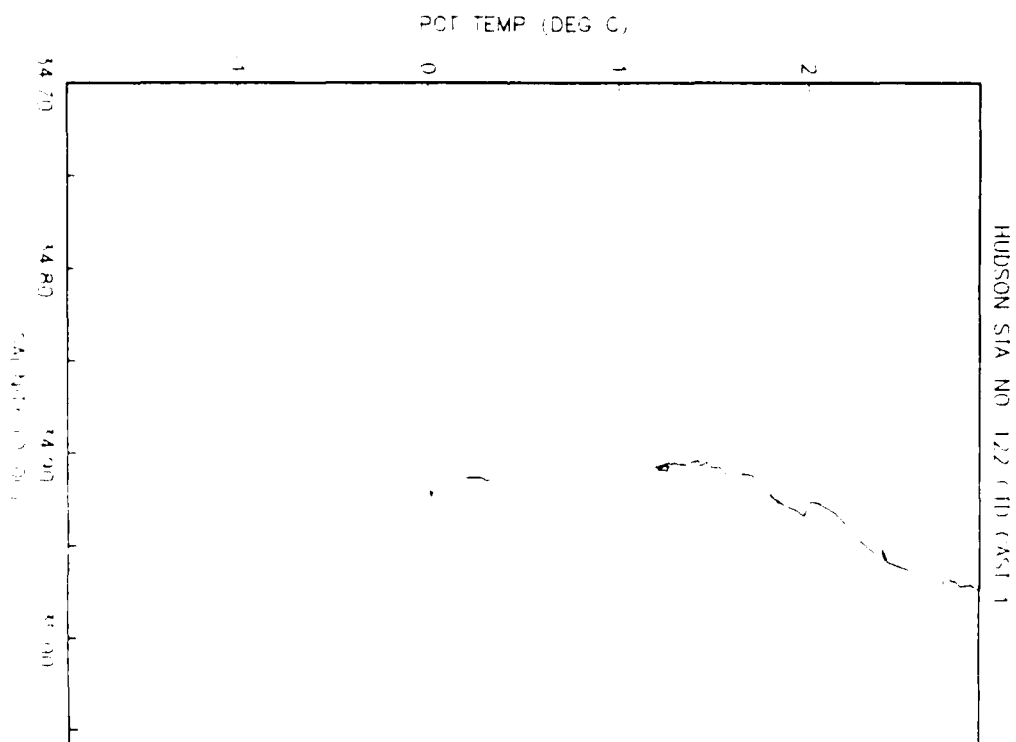
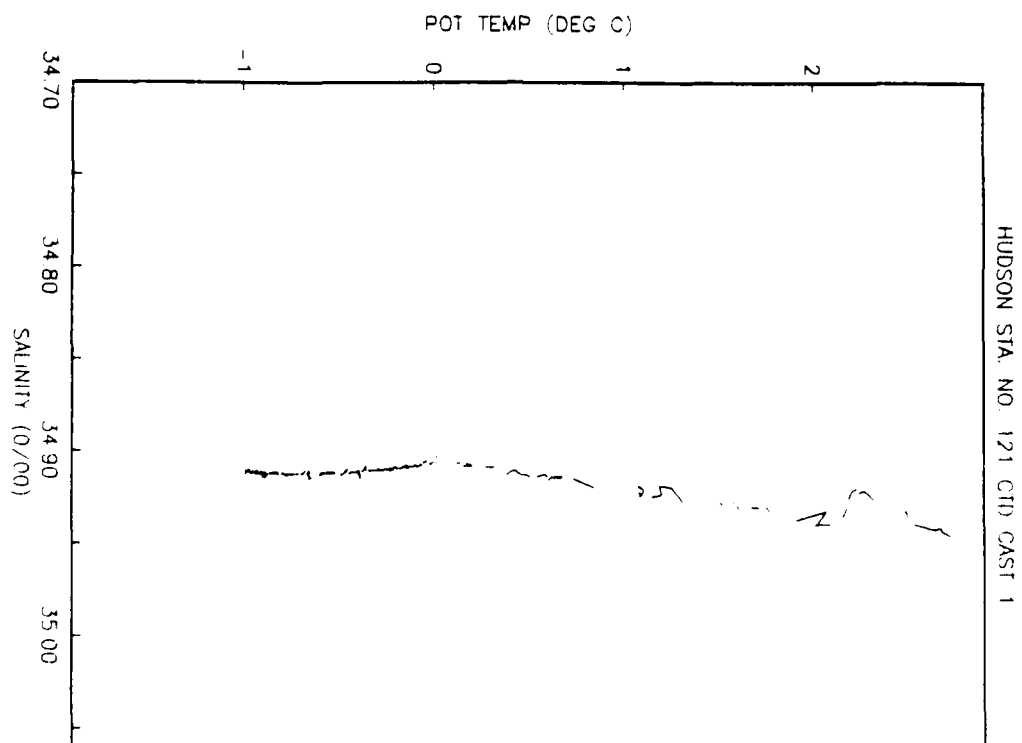


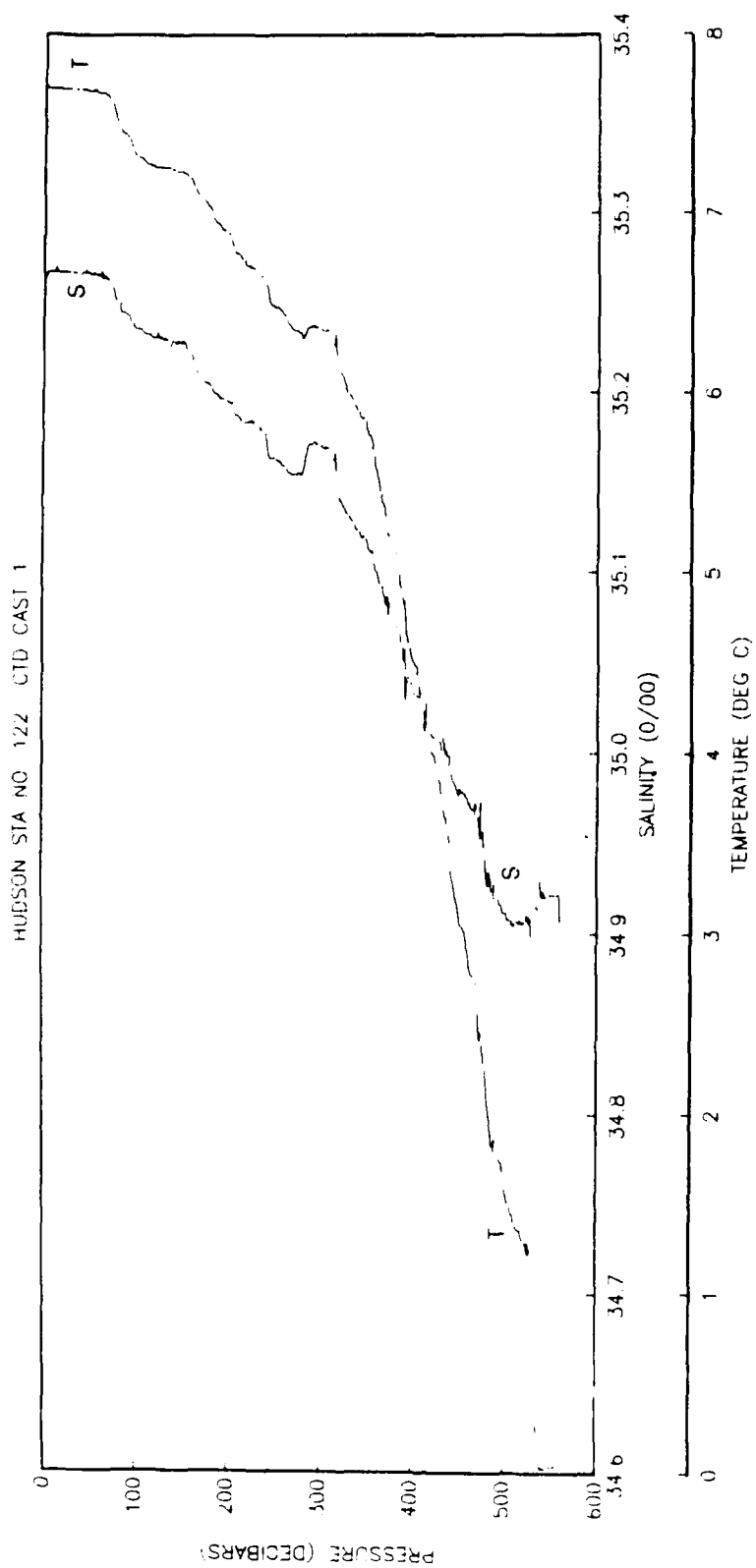


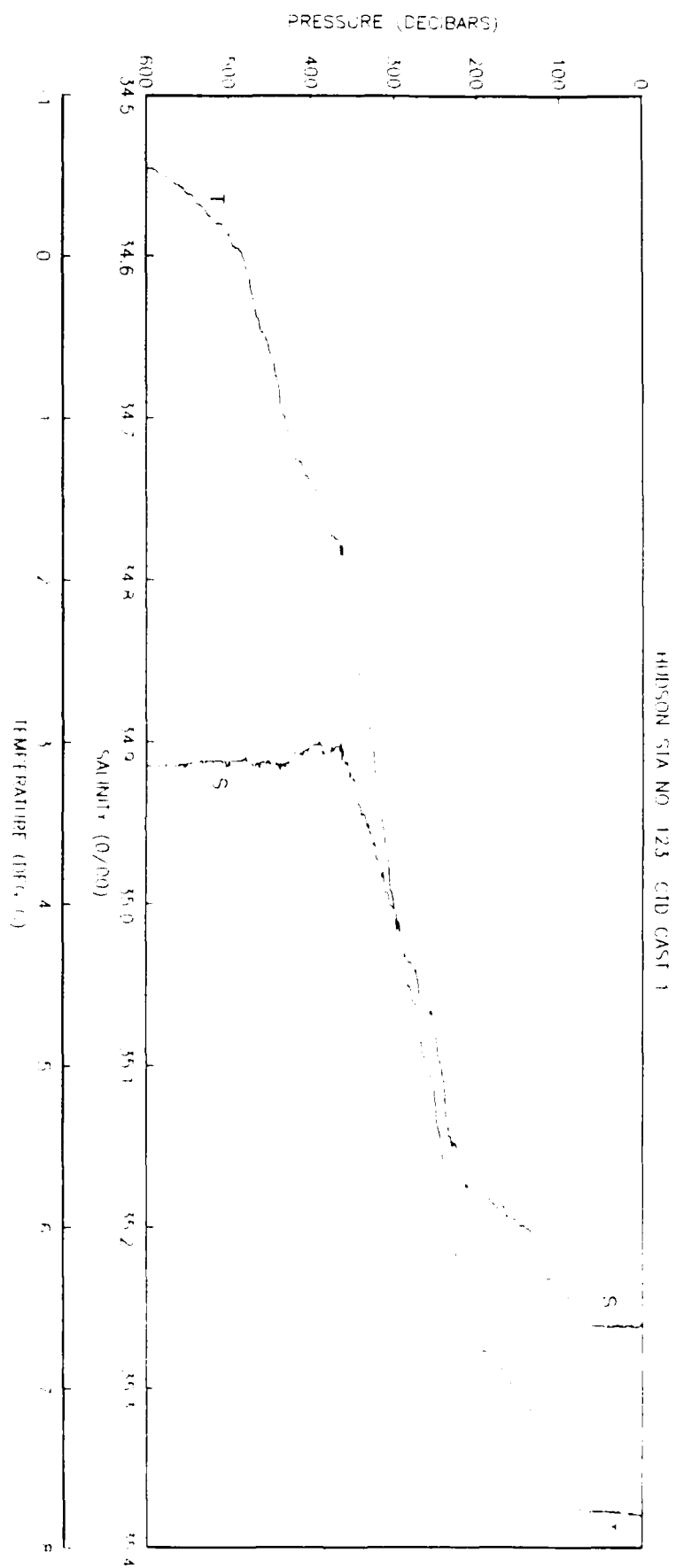


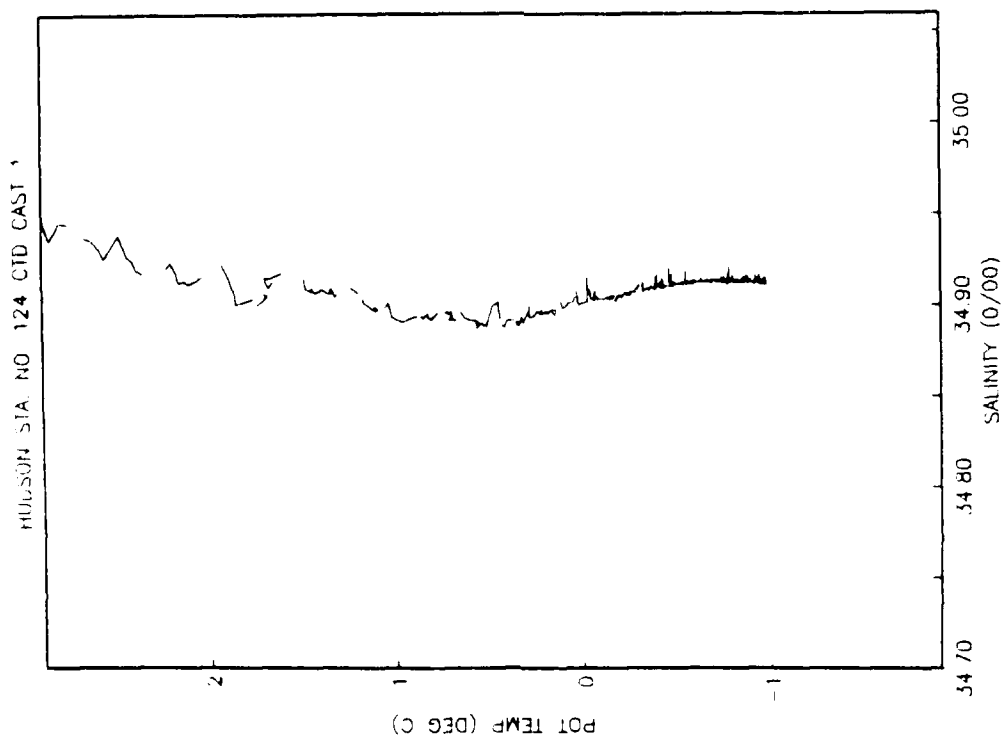
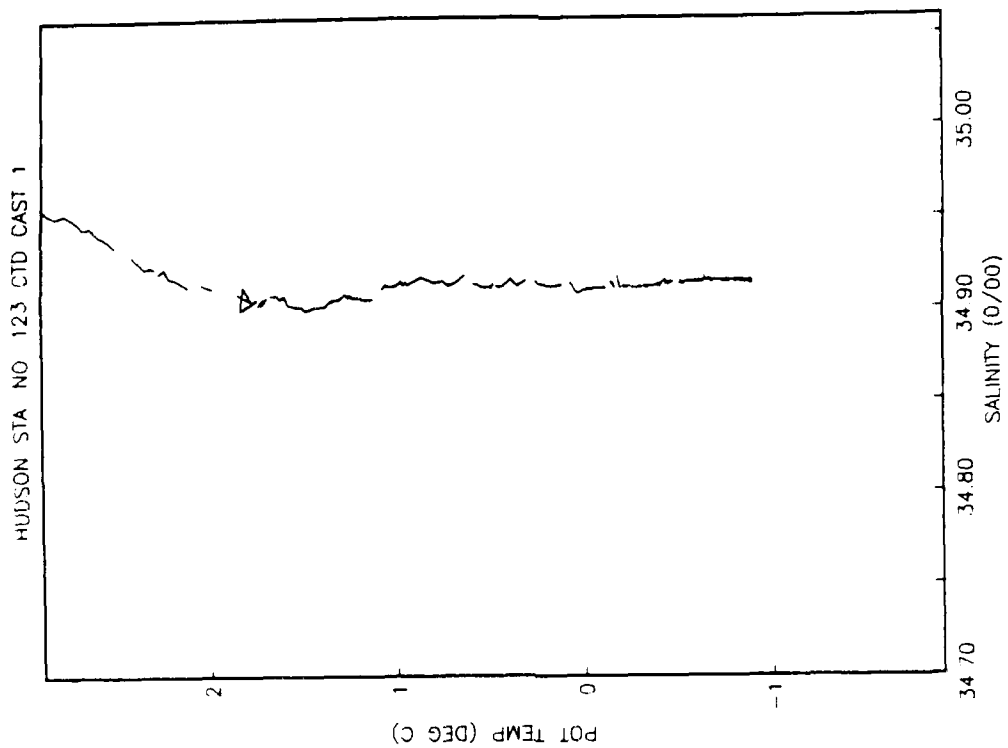
HUDSON STA NO. 121 CTD CAST 1

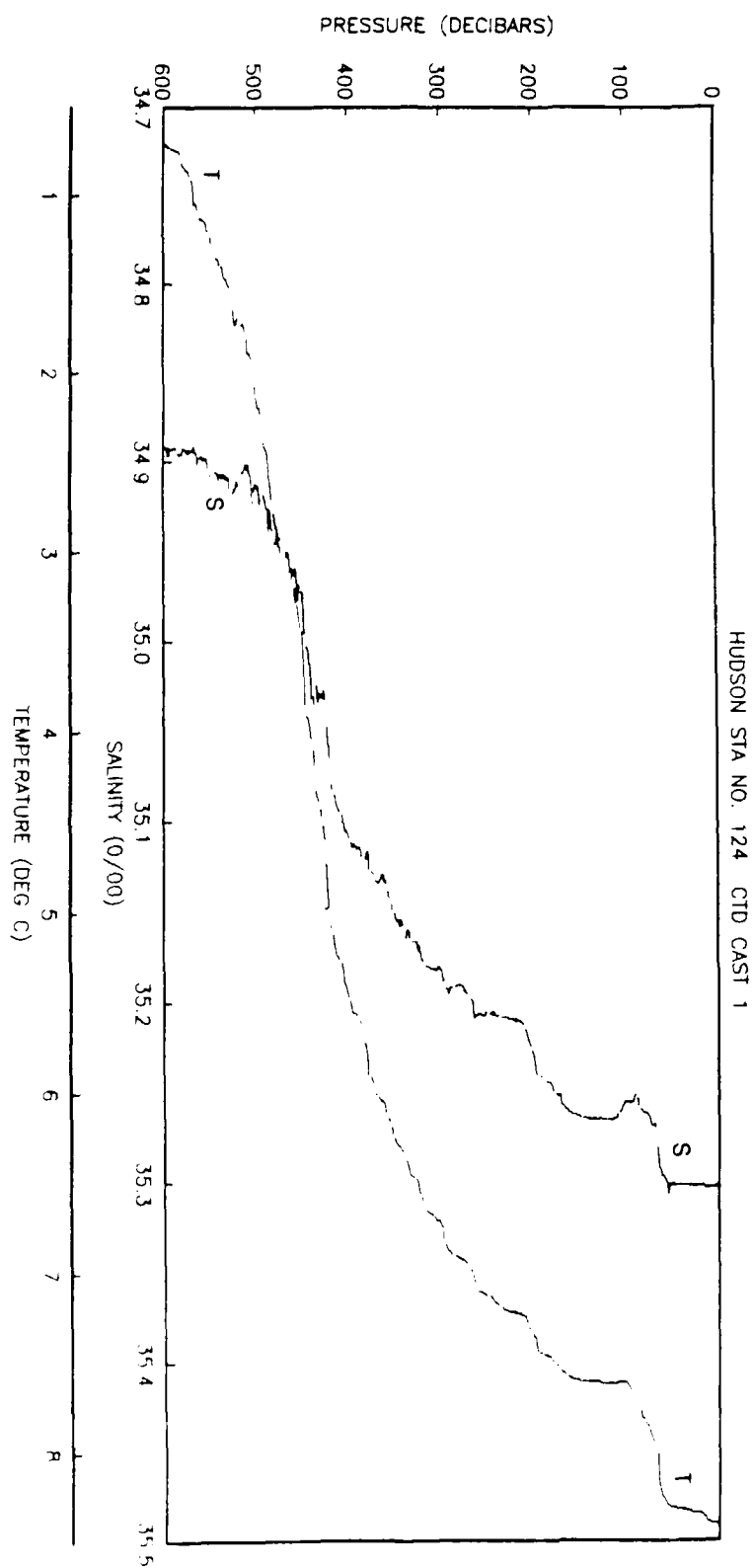




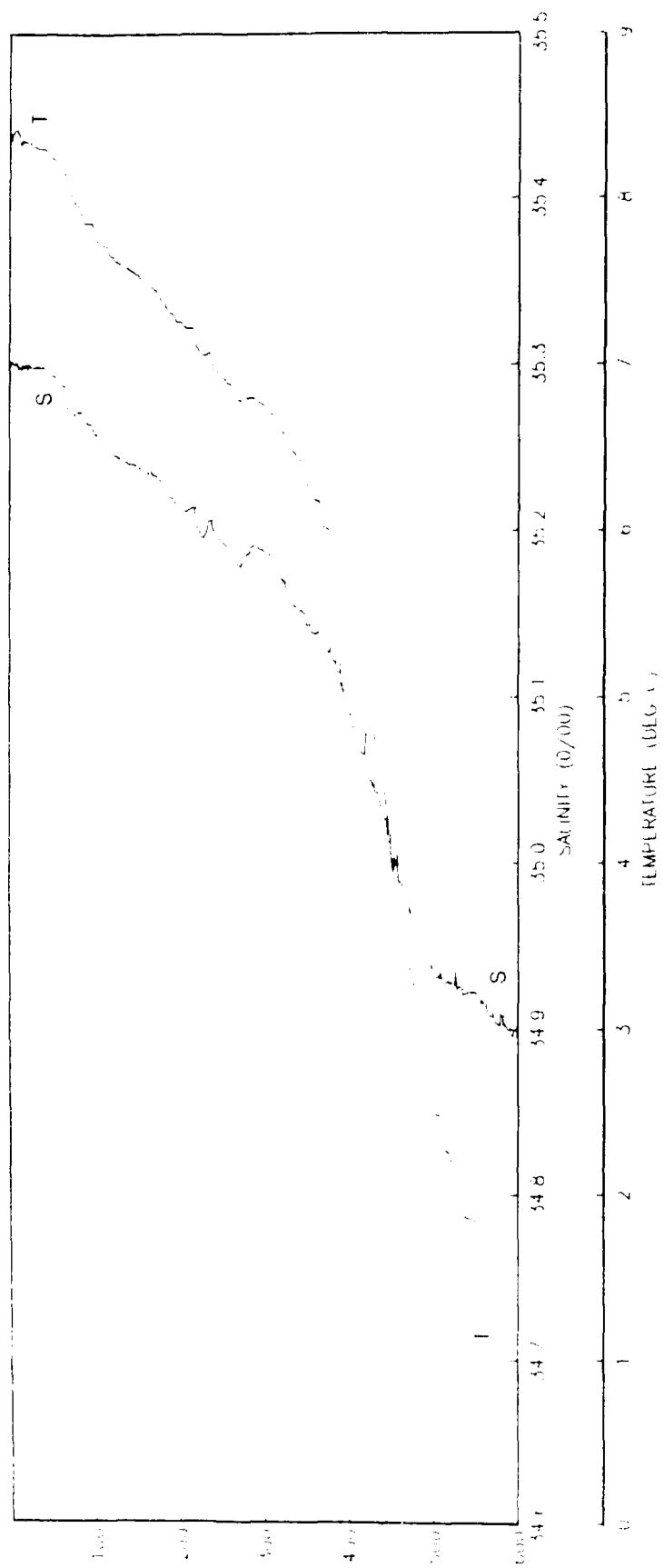


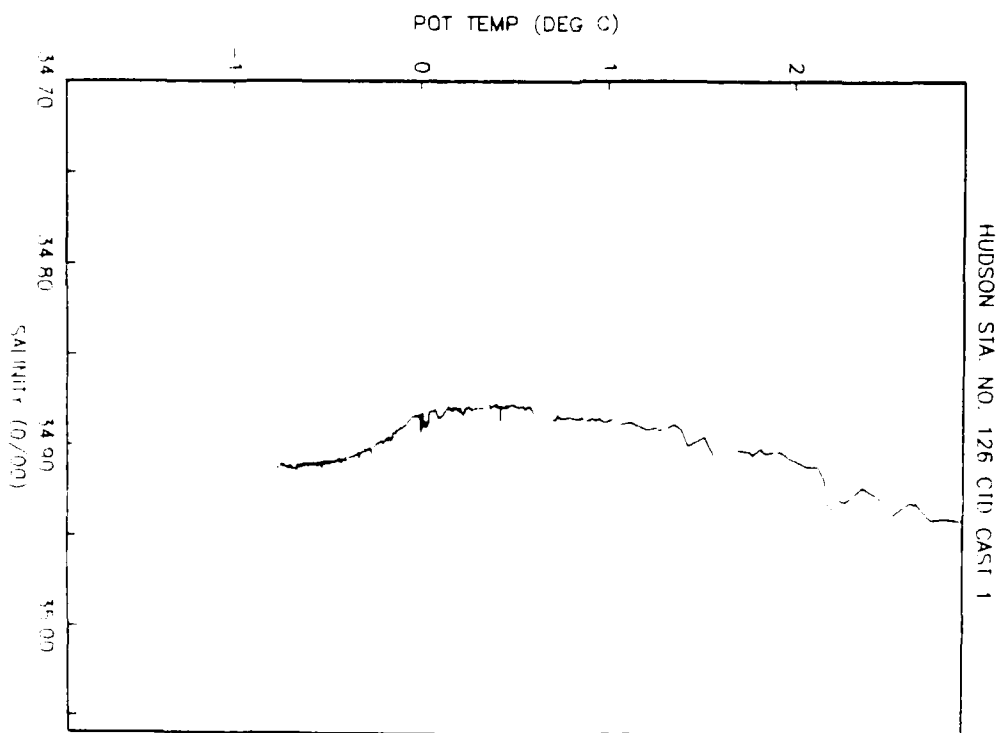
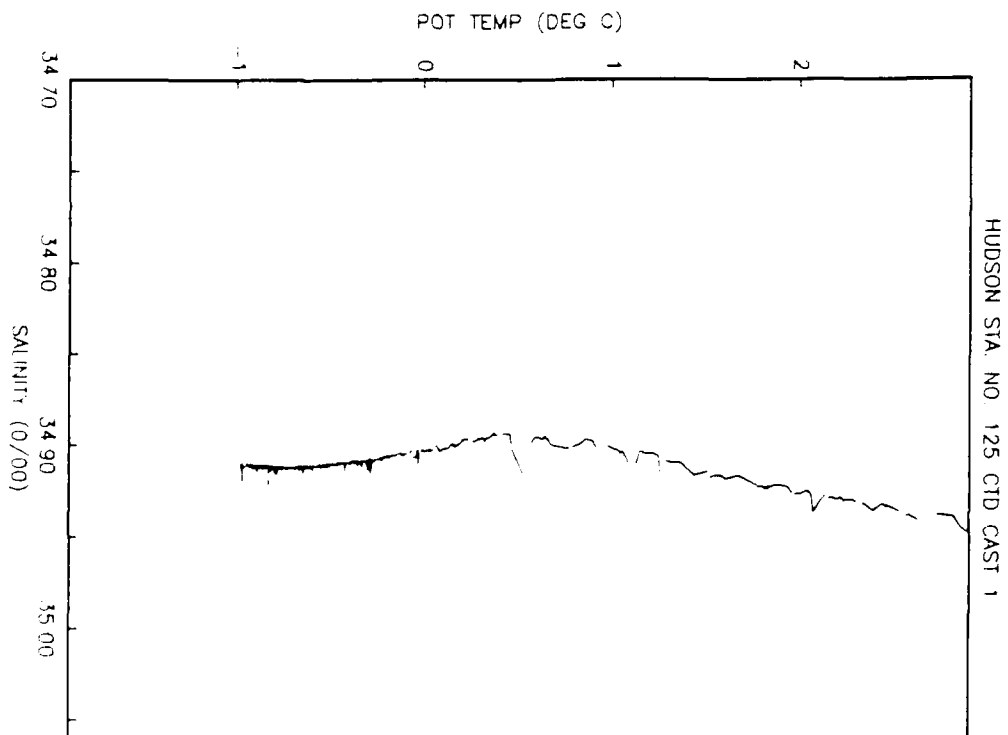






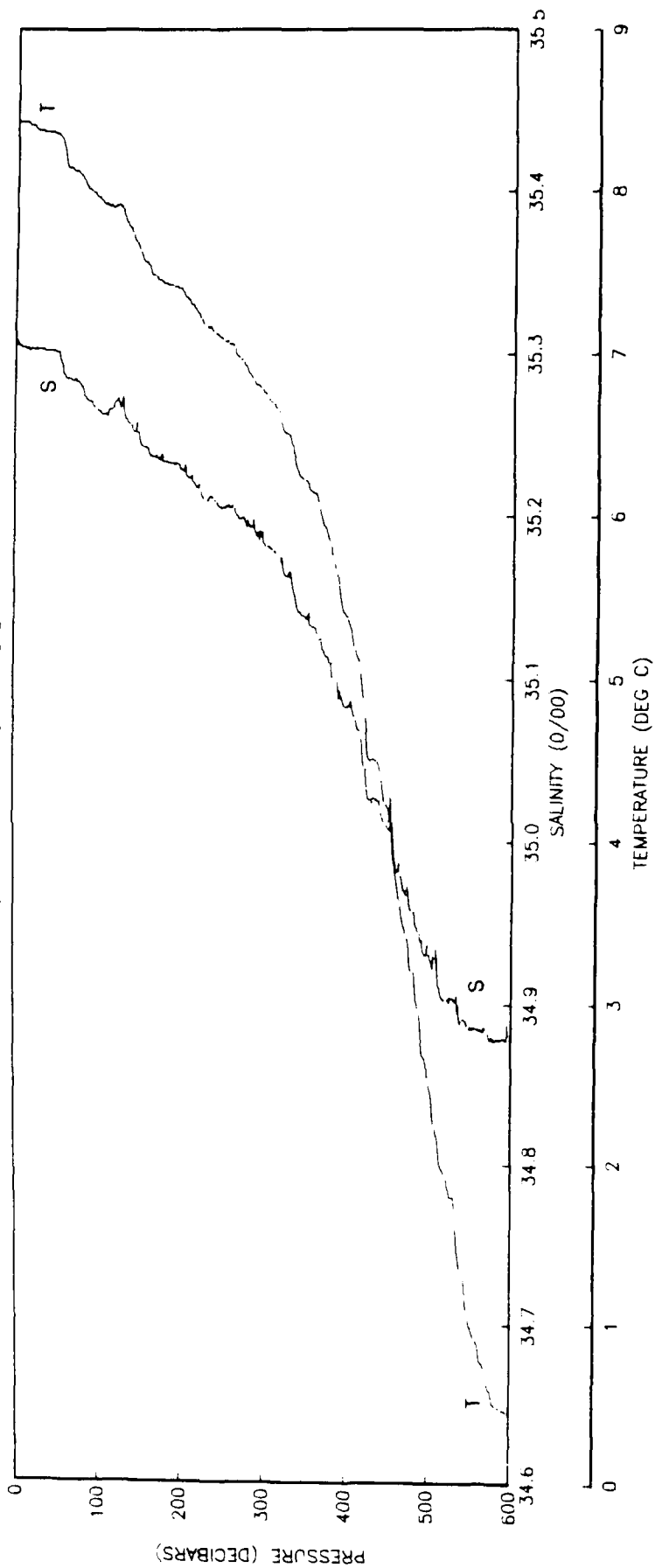
MOUSON SEA NO. 125 - 100 EAST

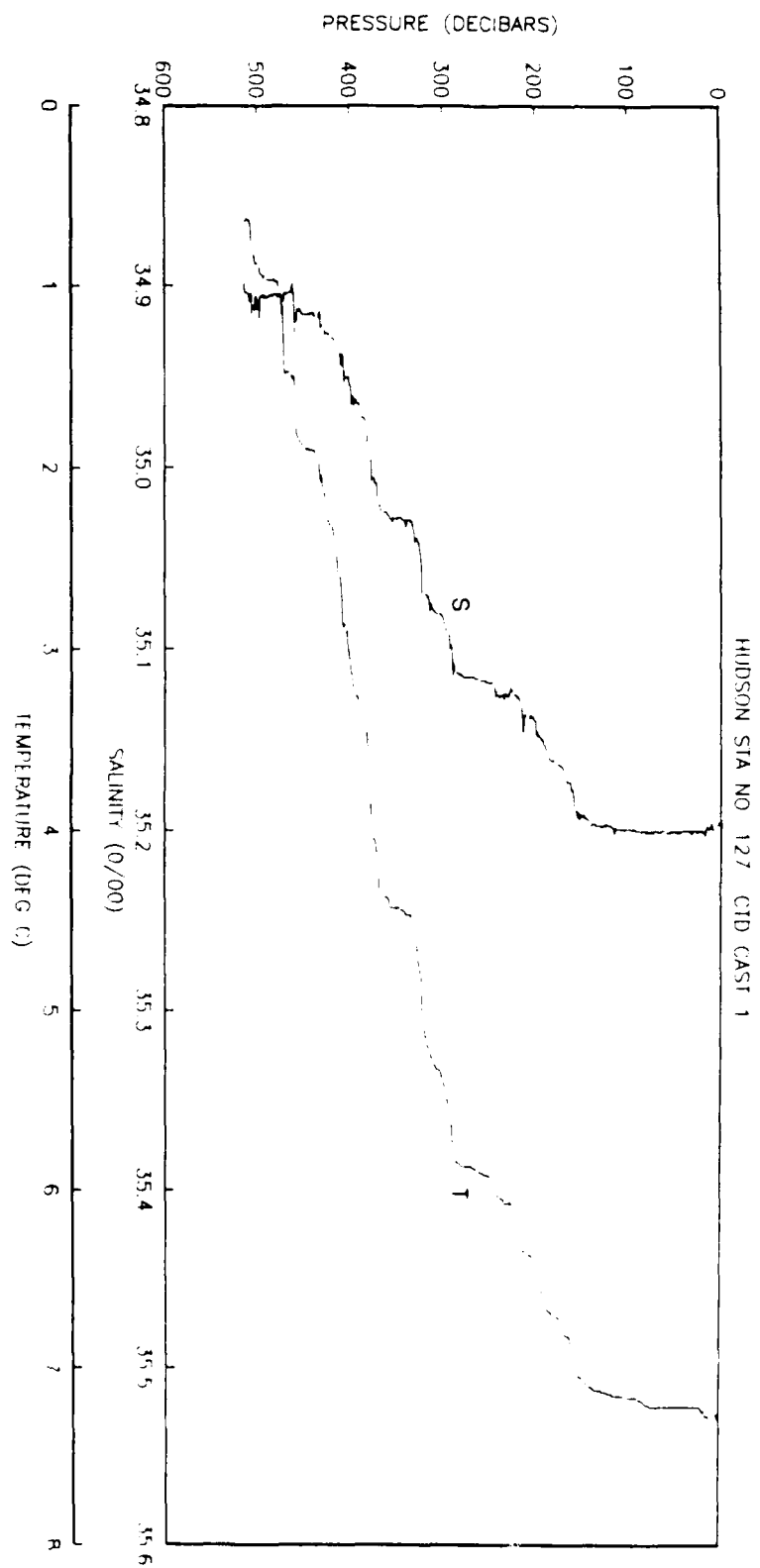




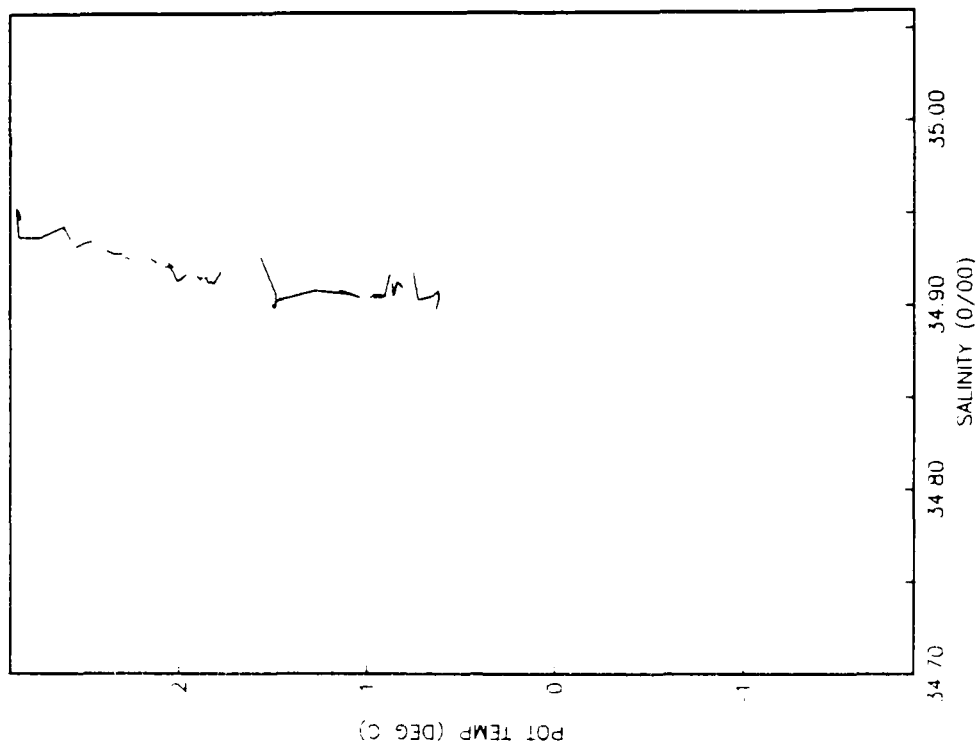


HUDSON STA 126 CTD CAST 1

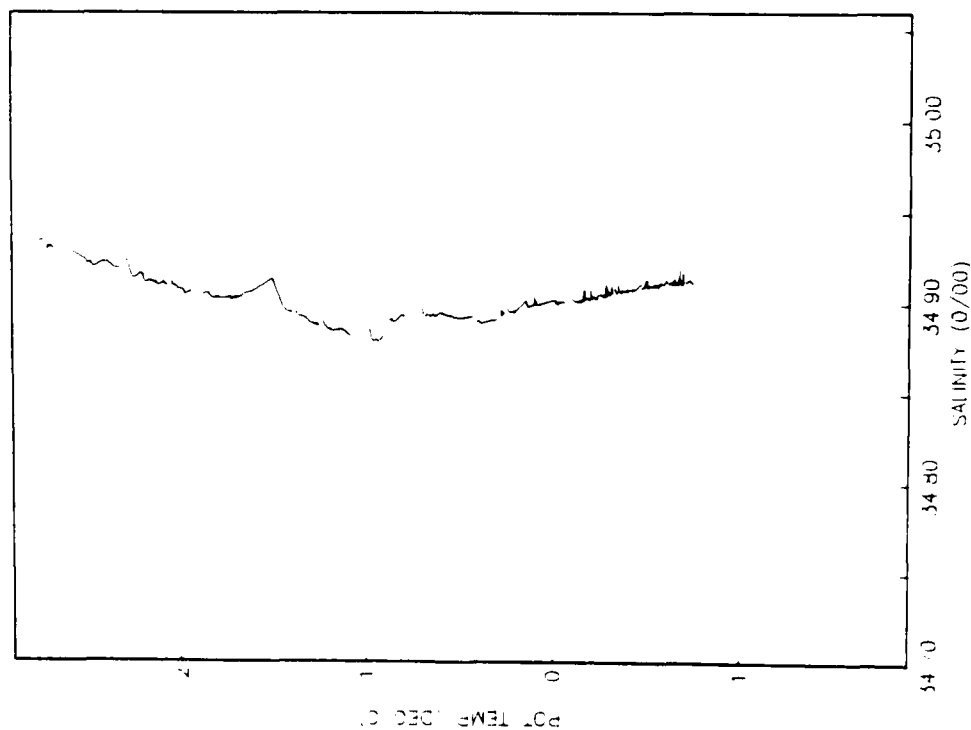


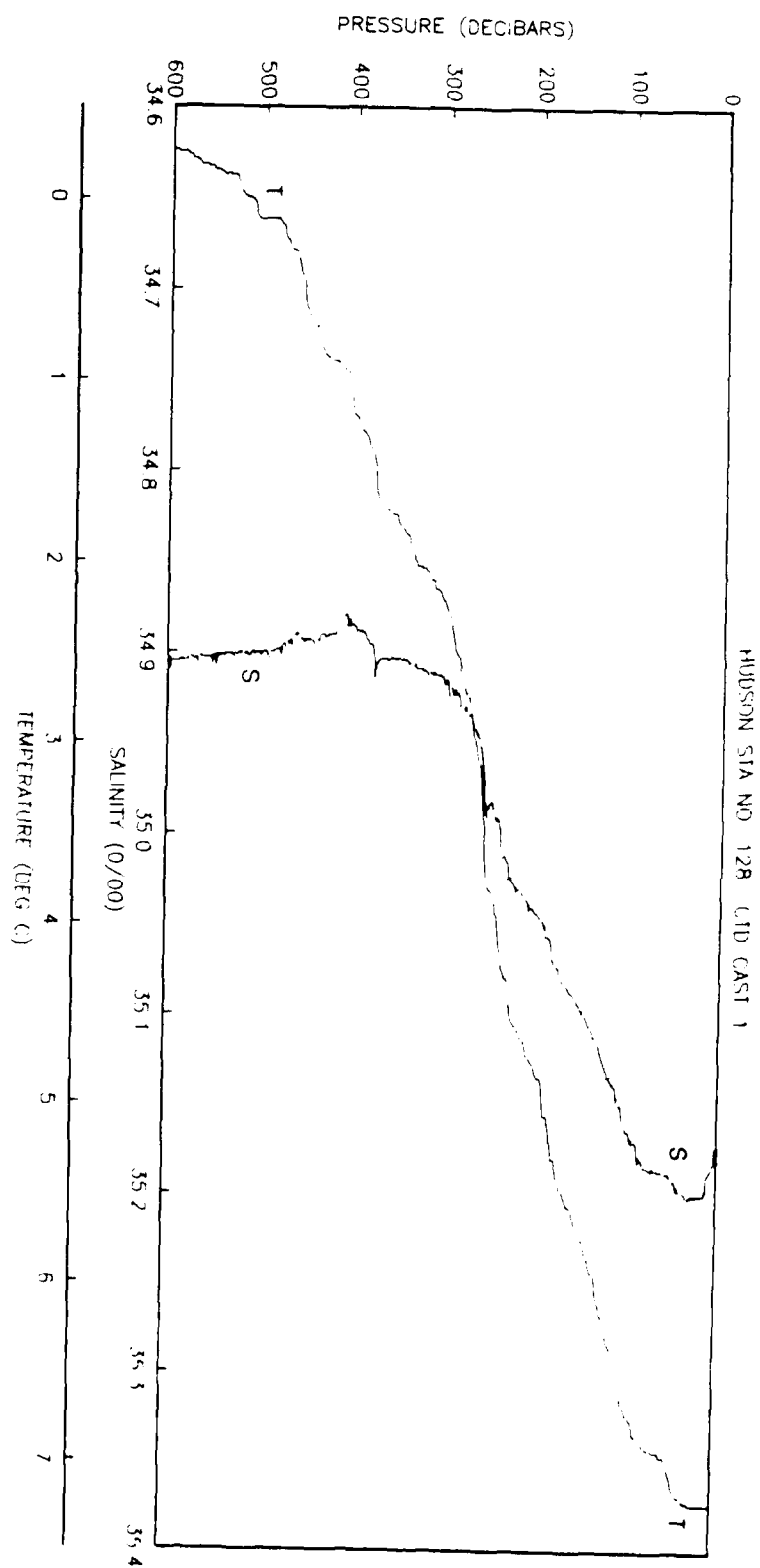


HUDSON STA NO 127 CTD CAST 1

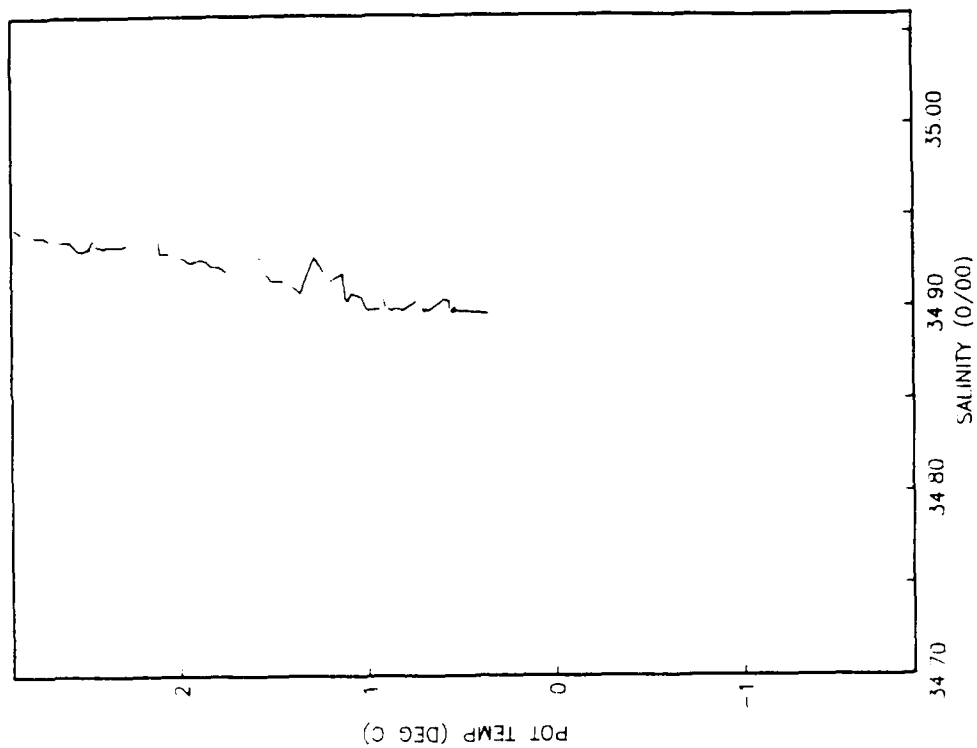


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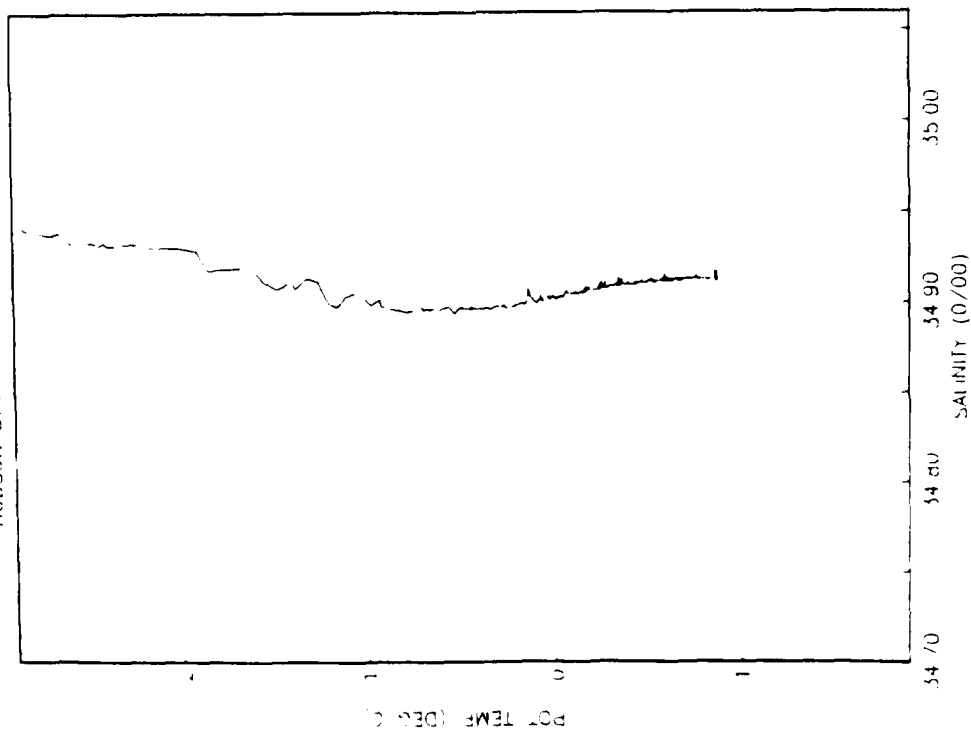


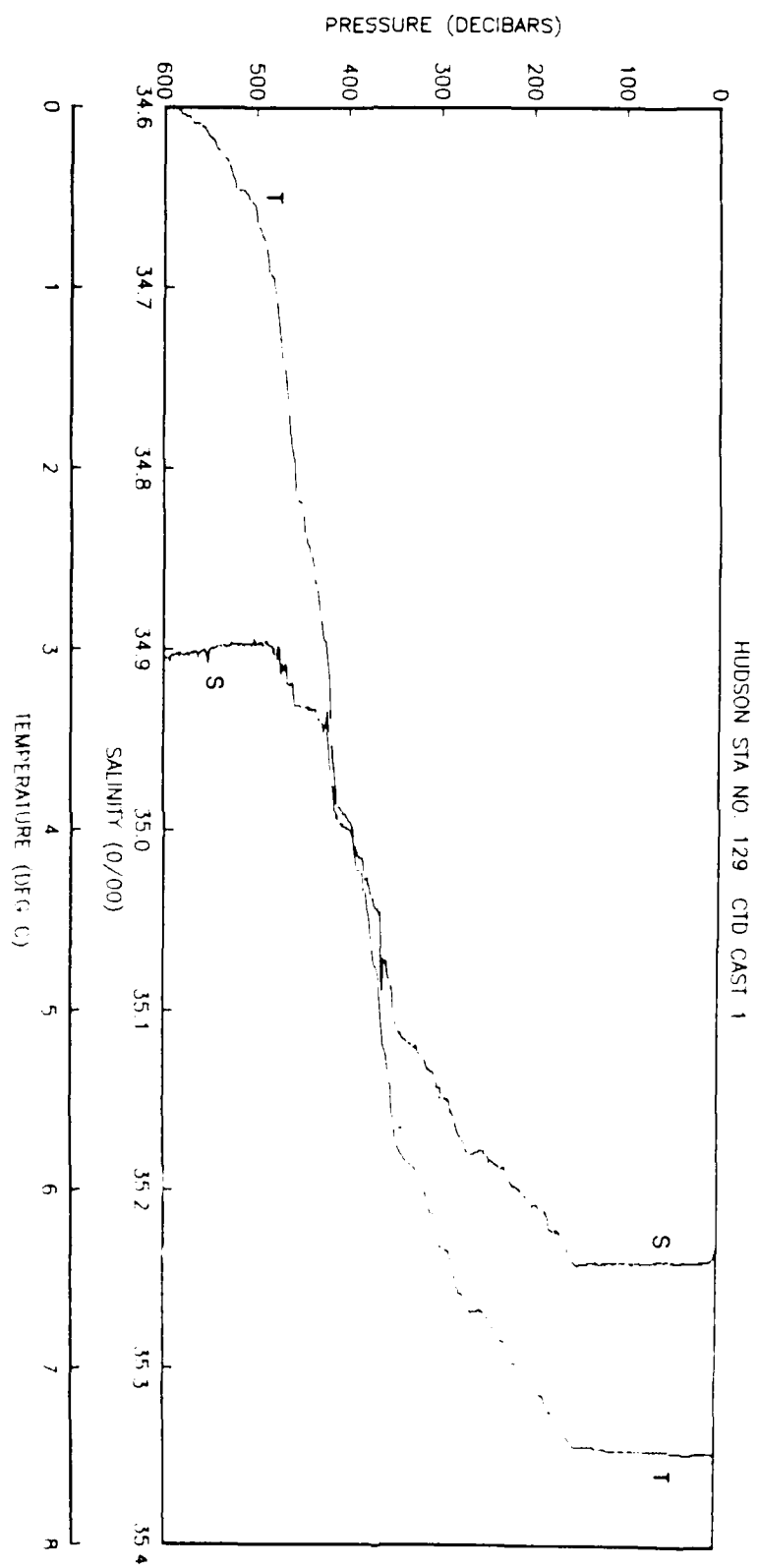


HUDSON STA NO 129 CTD CAST 2

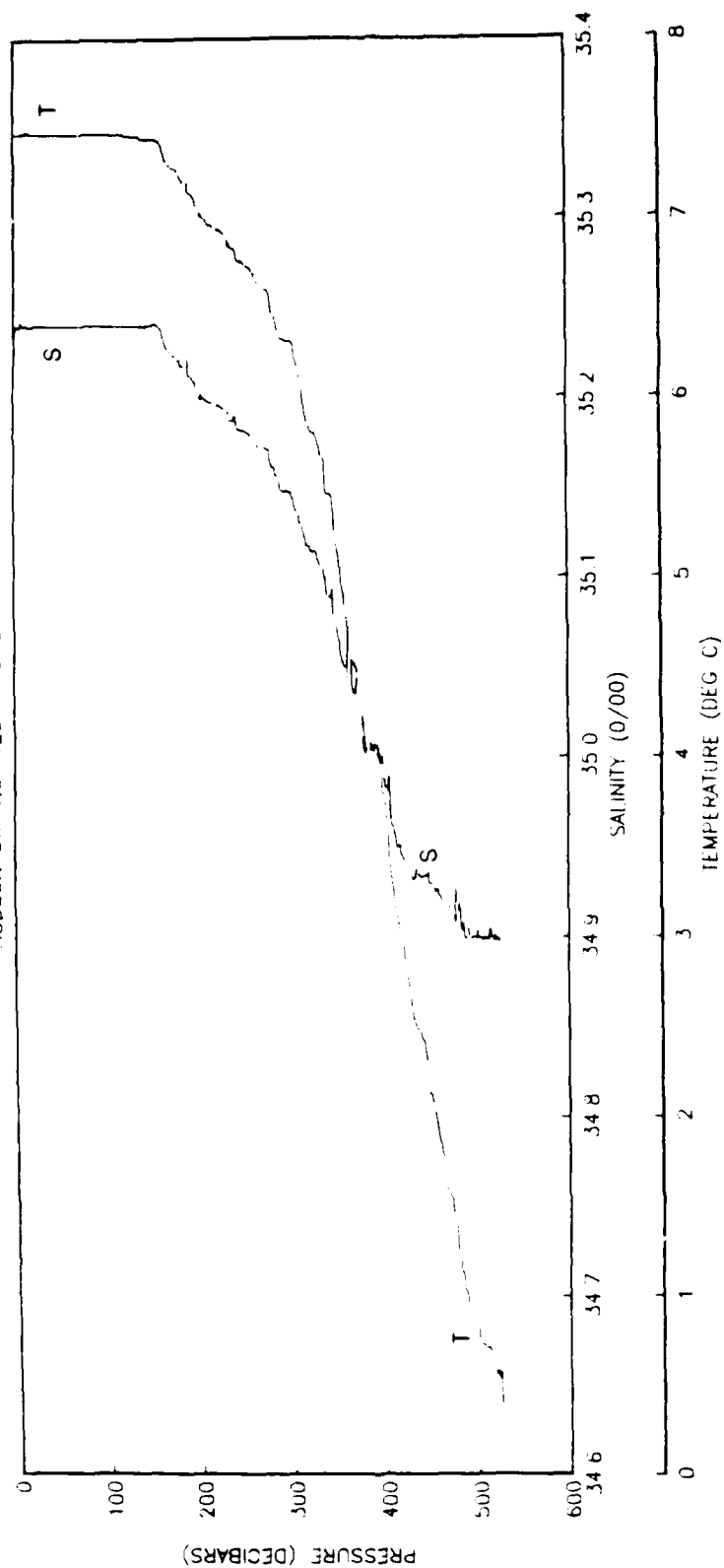


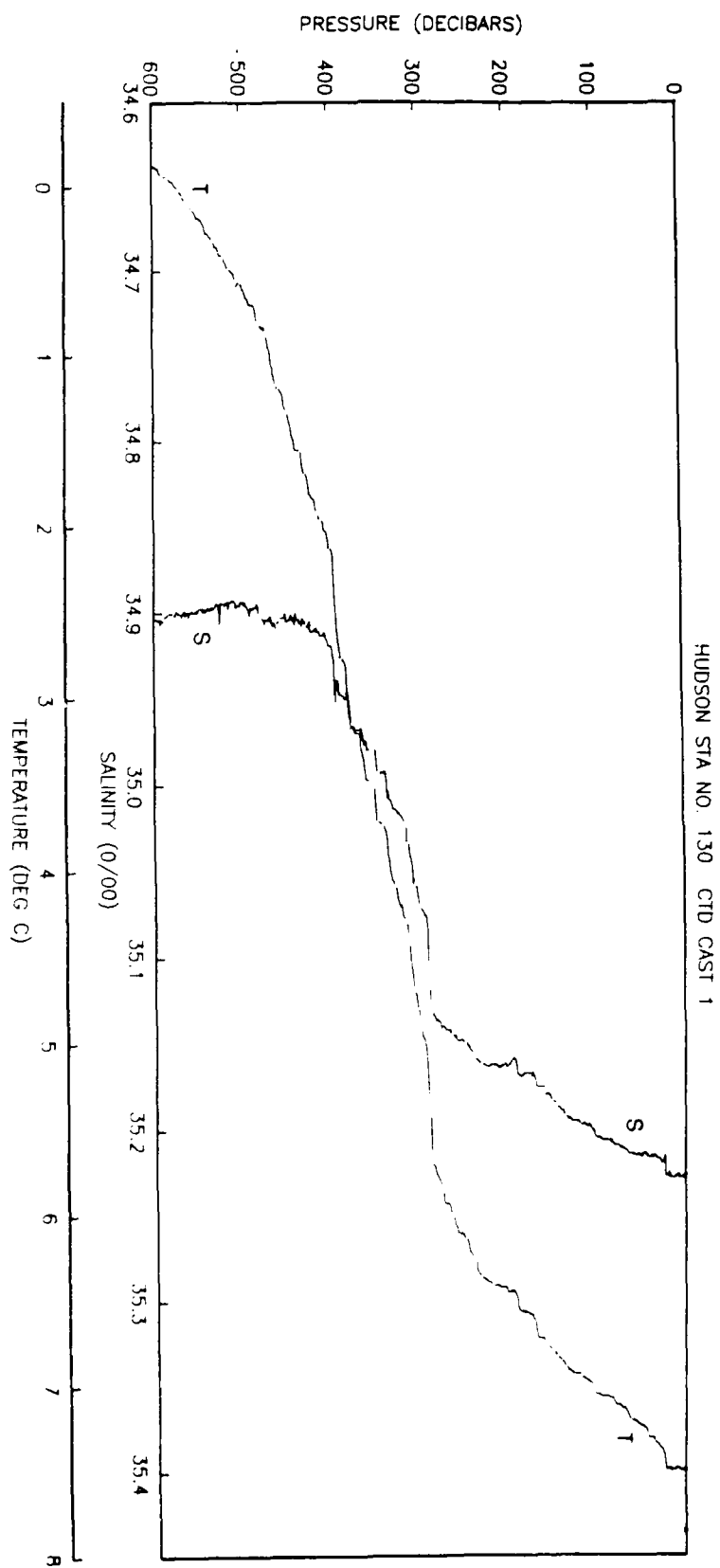
HUDSON STA NO 129 CTD CAST 1





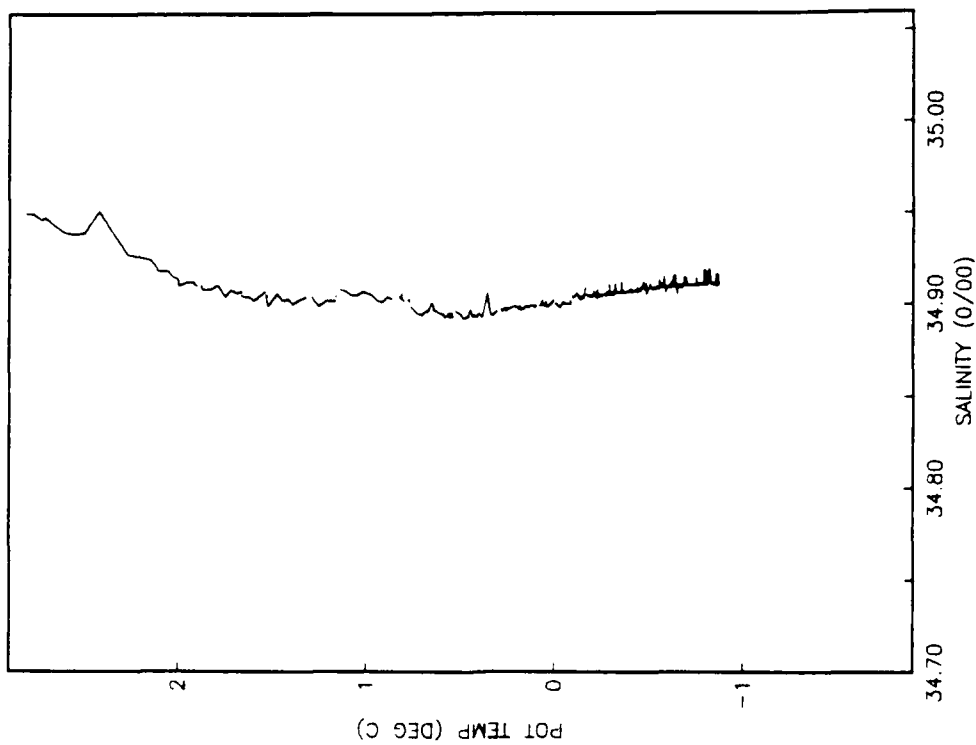
HUDSON STA NO 129 CTD CAST 2



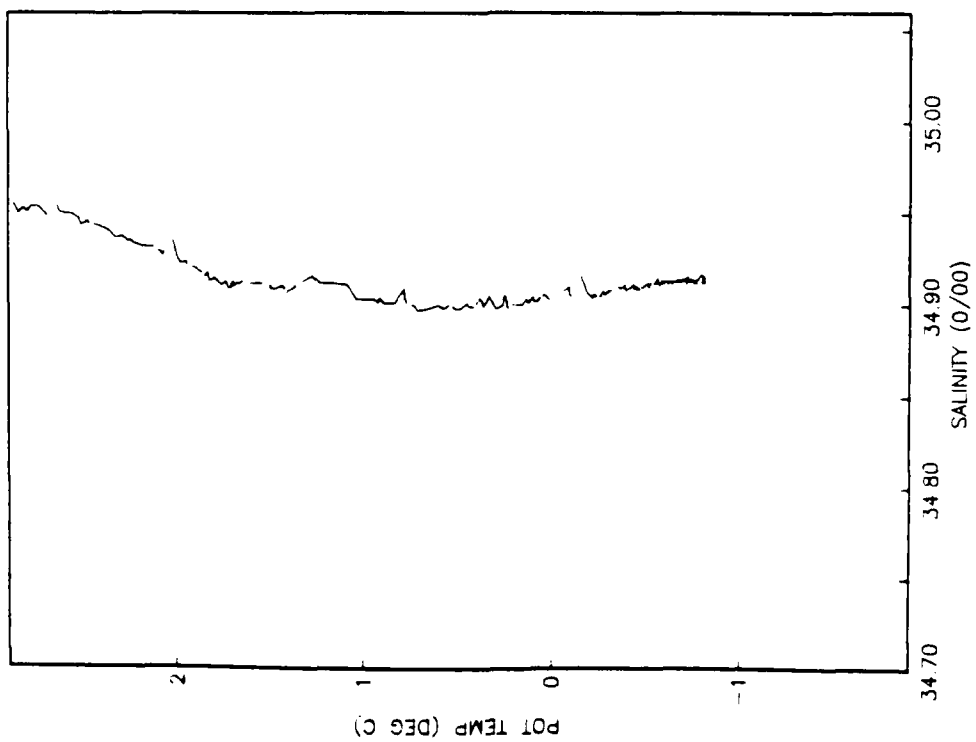


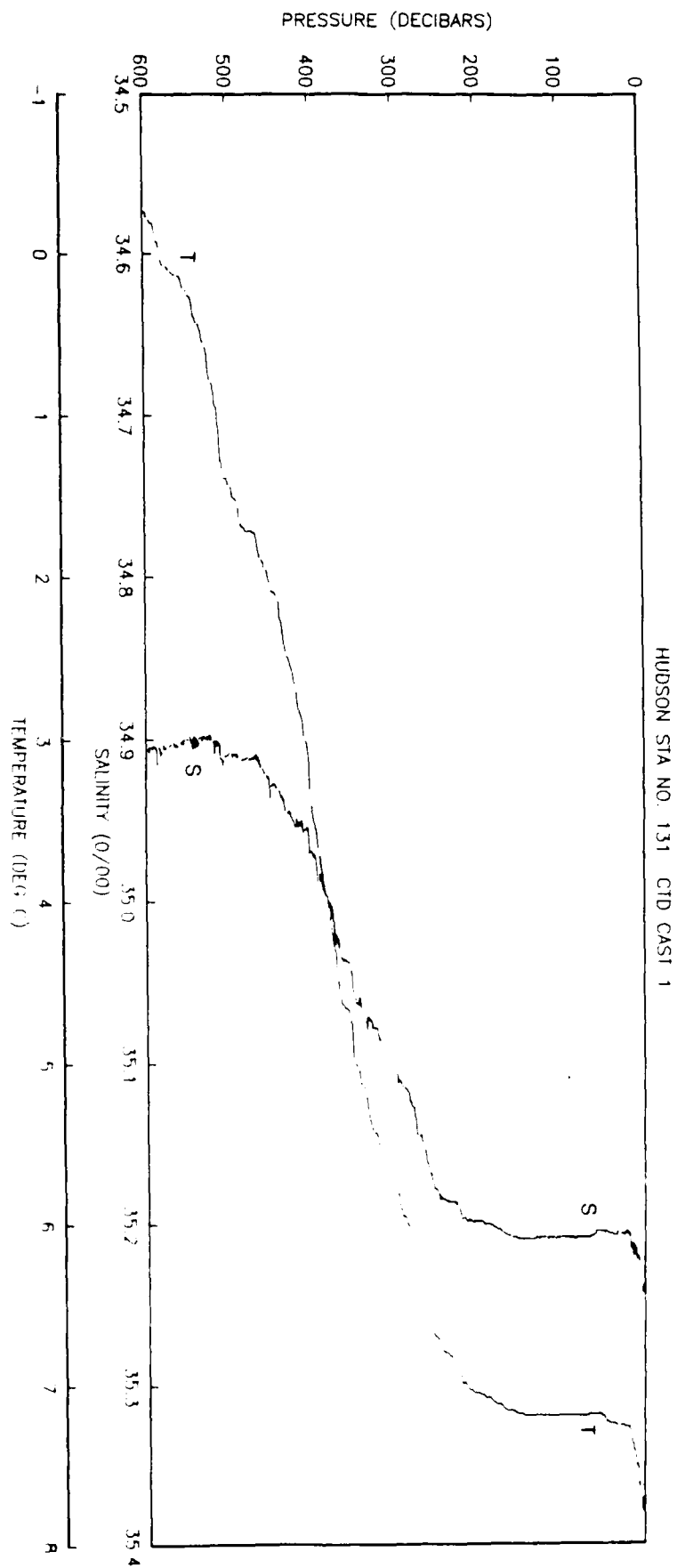


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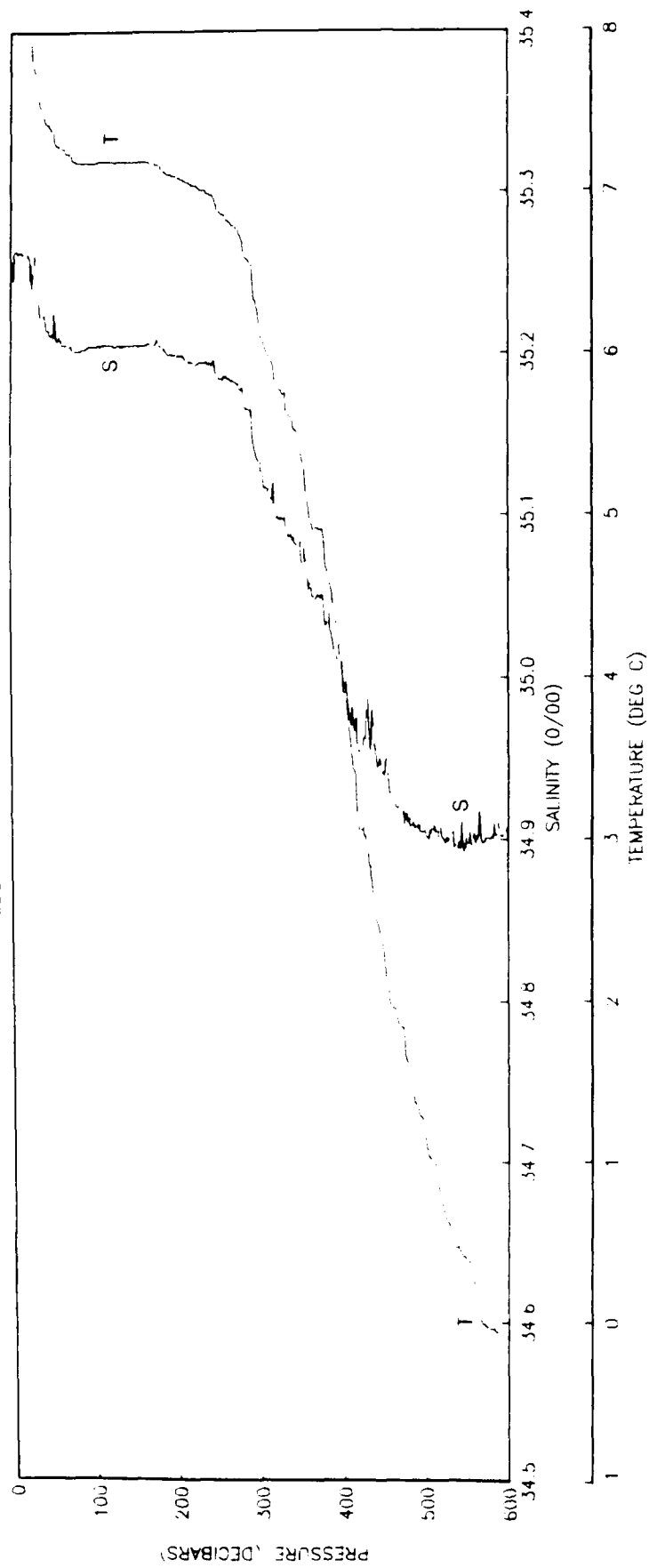


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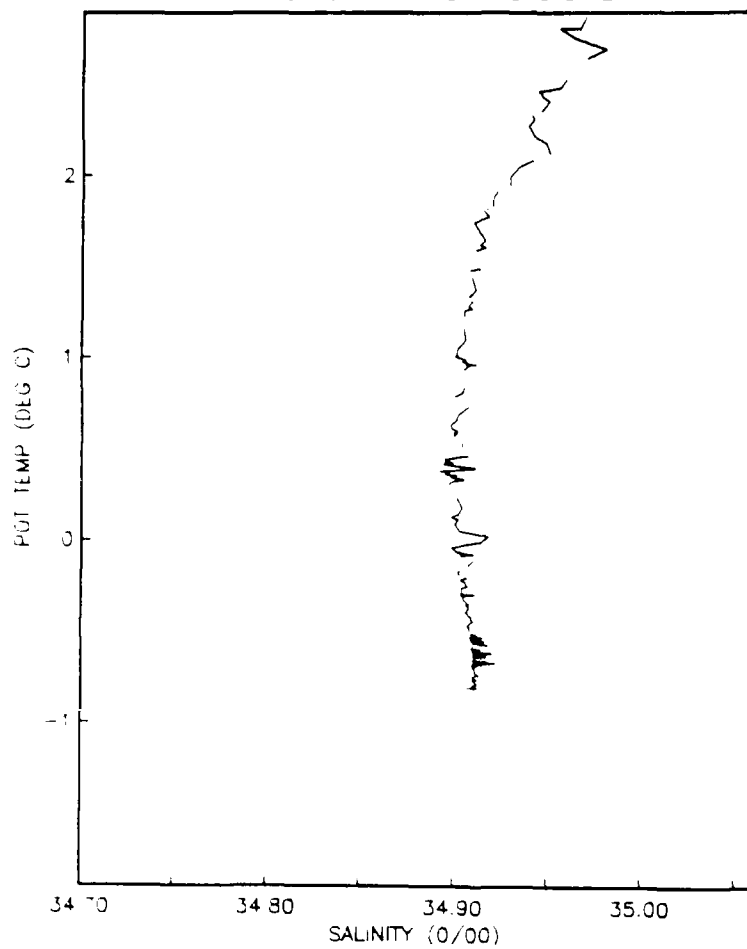


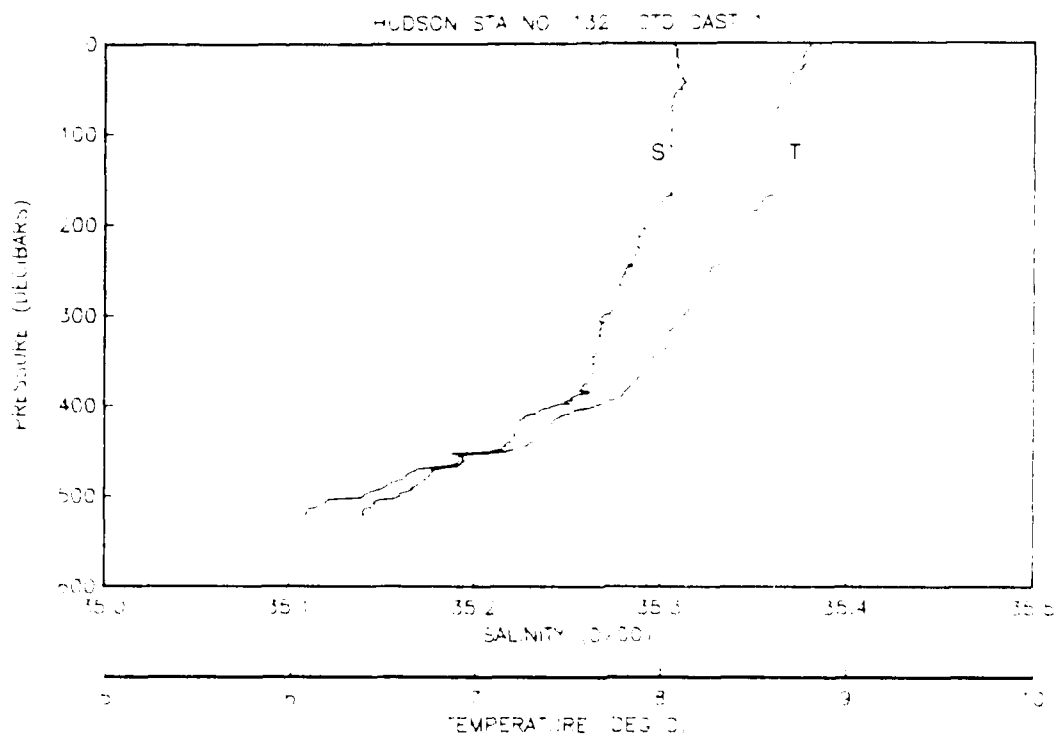


HUDSON STA NO. 131 CTD CAST 2



HUDSON STA. NO. 131 CTD CAST 2





**END**

**FILMED**

**8-85**

**DTIC**